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Thought Questions and Answers

CIVICS
GRAMMAR
PHYSIOLOGY
ORTHOGRAPHY
STOCK RAISING
AMERICAN LITERATURE
COMPOSITION AND RHETORIC
BUSINESS AND WRITING
GENERAL SCIENCE
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The Yoharthom Company

Thought Questions and Answers

TREATING OF

Thirteen Different Subjects

AND DEDICATED TO THE

Thinking Public

BY

The Authors

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PREFACE

Years of teaching have brought the realization of the need of a book of questions and answers for reviews, as well as for general use throughout the entire school year.

The aim of the authors has been, not only to give knowledge, but also to develop in the student, a habit of constructive and independent thinking.

No book of this nature should tend either to a complete treatment of the subjects contained, or to exclusive originality. Throughout the entire book the observative student will find the two basic principles of the authors, to impart knowledge, and to create an interest for the further search for enlightenment on various other subjects which will be suggested by both questions and answers.

The best education any person can obtain, is the one he gives himself. Originality in thought is a fundamental principle in such education and the authors have endeavored, through the nature of both questions and answers, to awaken in the student that basic principle, as well as a desire for further information on the many other questions that will suggest themselves in a thoughful study of this volume.

In a great many books of this nature, the questions are selected at random; but the authors have attempted throughout, to make the questions on each subject treated herein, a continuous chain. In American History, the student can easily determine the six periods which have been dealt with, viz: Exploration, Colonization, The Revolution, The New Nation, The Civil War, and Reconstruction. These periods have been covered in the natural order they were unfolded to the American people. It has been our intention to carry out this conformity, in every subject treated, therefore, to attain the greatest benefit from the study of any subject, the student should always begin with the first question, as the others follow in orderly succession.

To the various sources from which we have obtained a knowledge of the subjects herein contained, we give grateful acknowledgement.

We desire also, to express our gratefulness to all who have assisted in any way, material or advisory, in the preparation of "Thought Questions and Answers."

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—The Authors.

MAY 27 1921

Physiology

QUESTIONS.

1. What three sciences are usually studied under the head of physiology? Why?
2. What practical good results from an understanding of these subjects?
3. If you were starting on a journey that would last for many years, and knew you must make the entire trip in the same automobile, would you consider it good business to make a study of that machine?
4. Should we make a similar study of the body, the machine given us for the journey of life?
5. What is the life history of the cell?
6. What is a tissue?
7. What kinds of tissue in the body?
8. Which are known as "master tissues"?
9. Of what is the skeleton composed?
10. What are the uses of bones?
11. Name some habits necessary to the development of a normal figure?
12. Why are bones hollow?
13. How many muscles are in the body? They form what fractional part of the body's weight?
14. What are the uses of the muscles?
15. What is the source of muscular energy?
16. What are the causes of laziness?
17. What are the essential parts of the circulatory system?
18. What are the functions of the blood? Of what is it composed?
19. What is the best blood purifier?

20. Why is it painful to stand for a great length of time without moving?

21. Explain definitely the processes by which oxygen gets to the cells and carbon-dioxide is excreted.

22. What causes sighing? Panting?

23. Air, that is suitable for breathing, has what qualities?

24. Explain the work of the tonsils.

25. What changes take place in the food from the time it is taken into the body until it becomes tissue?

26. From what part of the digestive tube are foods absorbed?

27. Name the digestive juices and tell the work of each.

28. Give some simple rules for good digestion.

29. What are the uses of the skin?

30. Why does a temperature of 80 degrees on a sultry day seem as hot as a temperature of 90 degrees on a dry day?

31. Why does the skin of old persons become wrinkled?

32. Are blackheads worms?

33. By what means are messages conveyed from one part of the body to another?

34. How does a voluntary act sometimes become reflex?

35. What is the work of the sympathetic nervous system?

36. What are habits and how are they formed?

37. What are the uses of the organs of special senses?

38. Is it a good practice to let cold water enter the eye when washing the face?

39. How is a substance smelled?

40. Are there more than five special senses?

41. Tell how disease germs get from the sick to the well body.

42. What rules should be observed in selecting our physician?

43. What is the generally accepted idea of patent medicines? Is it true?

44. What is the best remedy for: (a) "Nervousness"? (b) "The Blues"?

Physiology

ANSWERS.

1. Hygiene, Anatomy and Physiology. While hygiene is of paramount importance, a knowledge of structure (anatomy) and functions (physiology) is necessary to a proper understanding of the laws of health.

2. It shows one how to attain happiness and efficiency through health, and how to help others in the same attainment.

3. Yes. You would consider it imperative that you understand all the parts, how they are made, how they work, and their relation to each other. Then you would make a close study of the care of the parts, that your machine could be kept in perfect working order and to reduce the wear of the different parts to a minimum; so, that you might have an effective and durable machine.

4. We should make a more thorough study, bearing in mind that the body, itself, if we stop soon enough, will make its own repairs; but, if we neglect so long that it cannot make the repairs, its function is lost. There is no "garage" for the purchase of new parts.

5. The cell is the living part of all organisms and is composed of a microscopic, nucleated mass of protoplasm. It is capable of all life functions, namely; taking food, breathing, excretion, growth and reproduction and has four periods in its life, which are; formation, augmentation, cessation and decline.

6. A group of cells, side by side, set aside to do a certain kind of work is known as a tissue.

7. The common solid tissues are : epithelial, connective, bony, muscular, nervous, fatty, and cartilaginous. There are liquid tissues such as; blood, saliva, etc.

8. Nervous and muscular tissue are known as the *master tissues;* the others, *supporting tissues.*

9. The skeleton is composed of more than 200 bones, of various shapes and sizes which are affixed to each other by means of joints that permit varied movements. The skeleton is further composed of cartilage and tough ligaments. The cartilage at the ends of the bones tends to deaden sudden jars and lessen friction. The ligaments hold the bones in place and set a limit to their movements.

10. Three principal uses of the bones are given: (a) they determine the shape of the body, (b) they support and protect delicate organs, (c) they are the levers upon which the muscles act in producing bodily motion.

11. The habit of wearing clothing that permits freedom of movement and allows the body to stretch and readjust itself. The habit of keeping correct posture in sitting, standing and walking. (In walking, the weight should be on the ball of the foot, so that the body swings forward from the ankle. Walk with a springy step and do not place the heel down first). The habit of bending at the hips instead of the shoulders, prevents "humpback", "flat chest", and "round shoulders".

12. It is a principle of science that a hollow tube will bear a greater weight than the same material in a solid form. Hence if they were solid and of the size they are under the tube arrangement, they would be unnecessarily heavy and strong. And, if they were small rods containing the same material as in the tube arrangement, they would be unnecessarily weak, and would not present the proper surface for attachment of muscles.

13. (a) About 500. (b) Nearly one-half.

14. The principal use of the muscles is to produce motion. They serve as protection for more delicate parts, and also round out the body, giving it beauty of form.

15. The muscle cells absorb food and oxygen from the blood, which when acted upon by the nerve stimulus, produces the energy that causes motion and heat.

16. Surprising as it may seem, lazy people eat more than workers. But this is a basic cause of laziness. They eat more

food than is needed, and this surplus food spoils in the digestive tract, forming toxins which weaken the nerves. This weakening of the nerves causes a tired feeling or laziness. Tapeworm or hookworm may sap the strength until the same effect is observed.

17. They are: a *circulating fluid,* the blood; an *engine* to move the fluid, the heart, and a *system of tubes* for conveying the fluid, the blood vessels.

18. (a) The uses of the blood are to carry food and oxygen to the tissues, and to carry waste matter away from them. (b) The blood is composed of plasma in which float the red corpuscles or oxygen carriers, and the white corpuscles or body defenders. Some authors name a third, known as blood plates.

19. Probably the best way to purify the blood is to sleep in the open air. If you cannot arrange for open air sleeping quarters, at least keep the windows open.

20. The heart does not pump the blood through the veins. A great part of the power for bringing the blood back to the heart is muscular action. The contraction of the muscles squeezes the blood toward the heart. It must go toward the heart as the veins have valves that prevent a backward flow. When one stands for a long time without moving, the impure blood becomes congested in the lower extremities and pain results. If continued long enough, nature causes us to *faint,* making the work of returning the blood an easier process.

21. The simple processes of inspiration and expiration are understood by all school-children. When, by muscular action, the chest is made larger, air rushes in to fill the vacuum. This constitutes *inspiration.* When, by muscular action, the chest becomes smaller, air is forced out. This is called *expiration.* But the more complicated processes of the interchange of oxygen and carbon-dioxide in the lungs and at the cells, can only be understood by a knowledge of the law governing the *diffusion* of gases, and a knowledge of the process of *osmosis.* The law governing the diffusion of gases is; A gas always tends to evenly distribute itself

through space. *Osmosis* is the process by which a fluid, either liquid or gas, passes through a membrane or tissue. To make a clear explanation of these processes, we will show: (a) How oxygen gets into the blood from the lungs and then how it is taken out of the blood by the cells, and (b) How carbon-dioxide passes from the cells to the blood and from the blood to the lungs. EXPLANATION: (a) Air taken into the lungs contains a higher per cent of oxygen than does the impure blood of the lungs, hence, because of the principle of diffusion of gases and by the process of osmosis, the oxygen of the air passes into the blood through the thin walls of the blood vessels. The pure blood of the cells contains a higher per cent of oxygen than the air in the cells, which is loaded with impurities from the life processes. Then, because of the same principle of diffusion of gases and by the same process the oxygen of the blood is taken up by the cells, passing through the thin living tissue surrounding the cells. (b) The pure air bathing the cells contains less carbon-dioxide than the air in the cells, which are loaded with carbon-dioxide, due to the life processes. Then, because gases tend to distribute themselves evenly, the carbon-dioxide of the cells passes through the thin tissue into the blood by osmosis. This air is carried to the lungs, which are continually filled with pure air that contains very little carbon-dioxide. Because of the same principle of gases and by the same process, the carbon-dioxide passes into the lungs for excretion by exhalation.

22. (a) *Sighing* is a reflex action of the respiratory organs due to air hunger. This is noticeable when one is breathing slowly, due to lack of interest in his surroundings. (b) Panting is a reflex action of the respiratory organs in which there in a quick succession of inspirations and expirations. This is noticeable during violent exercise, because the cells become loaded with carbon-dioxide and nature tries to remedy this by rushing pure air to the cells to remove the impurities.

23. Air for breathing should be *pure, cool, moving,* and should be neither *too dry* nor *too moist.*

24. The tonsils, one on each side of the throat, are placed on

guard to prevent the entrance of germs and dirt to our system.

25. The food undergoes many changes in the body. These processes are of two general classes: *Mechanical,* as chewing, and *chemical,* as changing of starch to sugar. Thus different foods are masticated, moistened, emulsified, chemically treated by acids or alkilies until they are in the proper liquid form for absorption by the blood and assimilation by the tissues.

26. Practically all absorption takes place from the small intestine. There is no absorption from the mouth, and practically none from the stomach.

27. (a) *Salive* moistens the food and changes starch to malt sugar. (b) *Gastric juice* dissolves mineral salts, changes cane sugar to grape sugar, and breaks up protein into peptones. (c) *Pancreatic juice* changes starch to grape sugar, breaks up protein into peptones, and digests fats. (d) *Intestinal juice* changes cane sugar and malt sugar to grape sugar, which is the only form in which sugar can be absorbed by the blood. (e) The *bile* enters the small intestine by the same duct as the pancreatic juice and its use is to stimulate that juice to greater action, making it from two to three times as effective as it is without the presence of the bile.

28. Eat regularly and freely of good pure food, breathe fresh air and take plenty of exercise, if you wish to remain free from indigestion.

29. The uses of the skin are: (a) A tough protective covering for the body, (b) main organ of the sense of touch, (c) to hold a layer of fat underneath it to protect the muscles from blows and help regulate the temperature of the body, (d) as an organ of excretion, (e) to regulate temperature by perspiration, and (f) as an organ of respiration.

30. When the body becomes warm the glands of the skin secrete sweat, mostly water, which forms on the surface of the body. The body is then cooled by evaporating this water. On a sultry day, the air is already saturated and cannot take up the water from the body, so the cooling

process is retarded. On a dry day, there is little moisture in the air, so evaporation takes place readily and the body becomes cool.

31. There is a layer of fat underneath the skin that helps keep the body warm. In old age this tissue is used to nourish the body and, consequently, the skin does not fit the body, but arranges itself in many folds or wrinkles.

32. No. Blackheads are formed by particles of dirt closing the oil glands. When we "squeeze them out", the white part is oil secreted and held in the duct and the black head is the particle of dirt that holds the oil in the duct. The whole gives the appearance of a white worm with a black head. (It is true there are sometimes worms in this oil, but they are too small to be seen with the naked eye.)

33. Messages are carried from one part of the body to another by means of the *nervous system* and by means of *chemical messengers, hormones,* in the blood.

34. A purely voluntary act frequently becomes reflex by constant repetition. A child when learning to walk, does a great deal of thinking for each step; but, in after life, he walks without any thought at all being given to the act.

35. The principal work of the sympathetic nervous system is to control the action of the internal involuntary organs, concerned in the processes of life.

36. Our habits are the actions, thoughts and feeling to which we have become accustomed. The first time we try to do a thing, think a thought or experience a felling, the process is slow and awkward because the nerve currents are traveling an uncharted course. With each repetition, the nerve currents move more easily till they attain perfect ease and swiftness. Then, the habit is formed.

37. To receive impressions from the outside world and transmit them in the form of nerve currents to the brain. (Some impressions, such as pain, are received from the inside of the body.)

38. No. Many people think it invigorates and strengthens the eye, but this is not true. Tears are secreted specifically for washing the eye and keeping it moist, and the dashing of

cold water in the eye, sometimes causes small ulcers to form on the ball.

39. A substance can be smelled only when particles of that substance come in contact with the olfactory nerves of the nose. Technically, we can smell nothing but gas. Liquids and solids have no smell. The odors we get from them are the results of gases arising from them.

40. Yes. Five are described in most textbooks. Everyone knows, however, that we have: sense of heat and cold, of pain, muscular sense, etc.

41. Disease germs may be excreted from the "sick body" along with other refuge. Through lack of disposal of this refuse by incineration or proper sewage, these germs may find their way to "well bodies" in the air they breathe or the water they drink. Germs may be liberated by forcible expirations as in sneezing and coughing and be inhaled by the "well person". Germs of skin diseases may be transmitted, when we come in contact with the flesh or clothing of one infected. Numerous germs are transmitted by insects carrying them from the "sick" to the "well" persons.

42. We should not select as our physician a man simply because he is popular. We should not select the physician who advertises to cure a disease that others cannot. The physician to choose, is the level-headed fellow, whom his fellow-physicians trust. They usually know who has had the most training and is better equipped to fight our battles against disease. When under the doctor's care, follow his instructions scrupulously, or change doctors.

43. (a) That they are cure-alls and contain some secret remedies unknown to the ordinary physician. (b) No. It is very erroneous. Your local physician can prescribe for you, much better than someone who never saw you, or better than you can yourself. Your physician knows the ingredients of these patent medicines and, if your case calls for such remedies as are contained in the "cure-all", he will administer them in a simple way.

44. (a) The best remedy for "nervousness" is to stop worrying and rest. (b) The best remedy for "The Blues" is work.

Grammar

QUESTIONS

1. How many *parts of speech* do we commonly use in expressing ideas?
2. What is the grammatical definition of each?
3. Give an example of each.
4. (a) What are the two classes into which *nouns* are divided? (b) Define each.
5. Are they further divided?
6. What properties have *nouns* and *pronouns?*
7. What are the divisions of each?
8. Is *gender* ever applied to inanimate objects?
9. When may a noun be said to be used in apposition?
10. What parts of speech have no properties?
11. What are the divisions into which *pronouns* are divided?
12. Define and illustrate each.
13. What properties have *verbs*?
14. Of what two general forms are *verbs*?
15. Define and illustrate the different *voices, moods* and *tenses.*
16. What is meant by the term *inflection*?
17. Into what general classes are *adjectives* divided?
18. Are these subdivided? Illustrate.
19. For what are *adverbs* used? Illustrate.
20. What things may *adverbs* express? Illustrate.
21. What are *prepositional* phrases? Illustrate.
22. What is usually classed as the unit of language?
23. What is the most common mistake made in speaking?

24. Name, define and illustrate the different kinds of sentences as to form.

25. As to uses, how many different kinds of sentences have we?

26. All sentences must contain two essential parts. Name them.

27. How can a sentence having only one word, such as; *Come,* have two parts?

28. What is the real purpose of analysis?

29. Define *expletive.* Give its relation to the rest of the sentence in which it is used.

30. Name, define and illustrate the principal marks of punctuation.

Grammar

ANSWERS

1. We usually make use of nine, viz: *noun, pronoun, adjective, verb, adverb, preposition, conjunction, responsive,* and *interjection.* Some authors give the *participle* and *infinitive.*

2. The definitions are as follows: The *noun* is a name of something. The *pronoun* takes the place of the noun in naming. The *adjective* limits or modifies a noun or pronoun. *Verbs* may be used to express either of two things, *action* or *being;* but usually the former. *Adverbs* limit or modify the meaning of adjectives, verbs or other adverbs. *Prepositions* are used for the sole purpose of showing the relation of the object—in the phrase of which they are a part—to some other word. The *conjunction,* as the name implies, is a coupler or joining word. *Responsives* answer or respond to some question. The expression of our emotional feeling when suddenly called forth are called *Interjections.*

3. His name is *Harold.* (noun). *He* does not like the name. (pronoun). The *little* boy came yesterday. (adjective). The President *takes* his seat March Fourth. (verb). Last month was *very* cold. (adverb). He went *into* the cave. (preposition). The rain comes down *and* the river rises. (conjunction). Did you see the Governor? *Yes.* (responsive). *Alas!* My daughter. (interjection).

4. *Common* and *proper,* the *common* noun being applicable to all objects of one general class or kind, as; barn, tree, boy, treaty, etc. The *proper* nouns can be applied to only one of a particular class or kind, as; George, Denver, Pacific, Earth, etc.

5. Common nouns are divided into: (a) *Collective* nouns, as; The *school* is now in session. (b) *Class* nouns, as; *Grass* grows in meadows. (c) *Abstract* nouns, as; The *lustre* of the diamond is hard to imitate. (d) *Participial* noun, as; *Walking* is good exercise.

6. They have *gender, case, person* and *number.* Gender discriminates them as concerns *sex.* *Case* treats of nouns and pronouns as related to other words in the sentence. *Person* shows whether the speaker, the person spoken to, or the thing spoken of is meant. *Number* is that property of a noun or pronoun by which we can tell whether one or more than one is meant.

7. We have four divisions of gender, viz; *masculine, feminine, common,* and *neuter.* The *masculine* gender denotes males; the *feminine,* females; the *common* either, and the *neuter,* niether. EXAMPLES: The *King* gave the order. (mas.). Has the *administratrix* settled the estate? (fem.). *Children,* obey your parents. (common). The *silo* is one of the farmers' best friends. (neuter). *Person* has three divisions, viz; *first, second* and *third.* EXAMPLES: *You,* (second) and *I* (first) must go, while *he* (third) remains. *Case* has three divisions, viz; *nominative, possessive* and *objective.* EXAMPLE: *Wilson* was president of the United States. (nominative). The *book's* cover is torn. (possessive). We fought in *France.* (objective). *Number* has two divisions, viz; *singular* and *plural.* EXAMPLE: The *train* is on time. (singular). The *cows* came home at night. (plural).

8. It is. Words representing inanimate objects of beauty, or grace, are frequently classed as *feminine* gender, such as; The moon's pale beauty was enhanced by *her* soft halo. The Earth maintains *her* course with unerring exactness. Words representing inanimate objects of *power, awe, might* or *strength* are sometimes classed as masculine. EXAMPLE: Over the entire heavens the Sun cast *his* dire warning.

9. When a noun by being in an adjective construction in the sentence represents the same person or thing as some other noun in the same sentence it is said to be in apposition.

10. Prepositions, conjunctions, responsives and interjections have none.

11. Pronouns are either *personal, relative* or *interrogative.*

12. The form of pronouns determines whether they represent the *first, second,* or *third* person, as; *I* see the Sun. (first person). Did *you* go? (second person). We saw *him*

leave. (third person). A *relative* pronoun is used instead of a noun to which it joins a limiting clause. EXAMPLE: We saw the man *whom* you recommended. Pronouns used in asking questions are said to be interrogative. EXAMPLE: *Which* is my desk?

13. Voice, mood and tense.

14. (a) Regular verbs, which form their past and perfect participle by adding "d" or "ed" to the present form, as; walk, walk*ed,* had walk*ed;* rake, rak*ed,* had rak*ed,* etc. (b) The irregular verb, which forms its past and perfect participle irregularly, as; go, went, gone, had gone.

15. (a) The *voices* are either active or passive. By *active* voice we mean that the subject of the verb performs the act, as in the sentence; The *man* drove the car. The subject, *man,* did the acting. By *passive* voice we mean that the subject is the receiver of the act expressed by the verb. EXAMPLE: The *car* was driven by the man. The subject, *car,* was the receiver of the acting. (b) The moods are of four classes, viz; *indicative, potential, imperative* and *subjunctive.* By the *indicative* mood the verb is used to express or indicate a truth, as; Harding is President. By the *potential* mood the verb is used to express ability or power, as; We *must abide* by our constitution. The verb is used in the *imperative* mood in a threat or determination, or if a superior is addressed it expresses supplication or entreaty. EXAMPLE: I *will go.* (determination). *Give* us this day our daily bread. (entreaty). The verb is used in the *subjunctive* mood to express doubt, as; *If* I *go,* you must remain. Such words as; if, were, unless, except, etc., are usually signs of the subjunctive mood. (c) There are three tenses, viz; *present, past* and *future.* Each has a *perfect* form representing the act as already completed in the particular tense to which it is applied. The *present* tense denotes time now with us. EXAMPLE: He *is* a good Governor. The *past* tense denotes time gone by. EXAMPLE: He *was* a good Governor. *Future* tense denotes time which is yet to be. EXAMPLE: He *will be* a good Governor.

16. Inflection is the variation in the *form* of the parts of speech to indicate a variation in *use.*

17. Adjectives are either *limiting* or *qualifying.*

18. They are. (a) Qualifying adjectives may be *common, proper or participle.* EXAMPLE:He is a *pretty* boy. (common). The *British* Parliament is in session. (proper). The *shivering* form stood outside the door. (participle). (b) Qualifying adjectives include the articles, viz: definite (the) and indefinite (a) or (an) also numeral and pronominal adjectives. The numeral adjectives designate number, as; *many* trees, etc., while the pronominal adjective is merely a pronoun used as an adjective. EXAMPLE: *Those* men are Algerians.

19. Adverbs are used to limit the meaning of other words which they modify, as; We *almost* ran a mile. The adverb *almost,* limits the verb *ran,* by telling the degree or extent of running.

20. Adverbs may express; time, place, manner and degree. EXAMPLE: I will go *tomorrow.* (time). We came *here* to see our brother. (place). She walked *hastily* homeward. (manner). The lesson was *exceedingly* difficult. (degree).

21. A *preposition* together with its object constitutes a prepositional phrase. EXAMPLE: He went *into the house.* The words, *into the house,* constitute the prepositional phrase. The object of a prepositional phrase can be determined by asking a question. Use the preposition as the first word of the question and one of the three interrogative pronouns; who, which, what, (as sense may require) for the second word of the question. The answer to the question asked will be the object of the preposition. To illustrate: In the foregoing sentence: *He went into the house; into* is the preposition. Ask the question; *into what?* The answer, *house,* is the object of the prepositional phrase.

22. The sentence is usually classed as *unit* of language. From it we build the paragraph, chapter, volume, etc.

23. Probably the most common mistake made in the use of language is using the *double negative.* Many say in reality the exact opposite of what they mean. EXAMPLE: Neither one of you can't go, probably means: Neither of you *can* go. I can't tell no difference in the two, probably means; I *can*

tell no difference in the two. Notice your associates and you will be surprised at the misuse of the double negative.

24. Sentences are of three kinds, viz; The *simple,* or the kind with one subject and one predicate. EXAMPLE: I knew him well. The *complex,* which contains a clause, as; Did you mean *that you would go.* The *compound* sentence, which contains two or more sentences of like construction, as; God said "Let their be light", and there was light. The *co-ordinate conjunction* always joins members of a compound sentence.

25. According to uses we have two kinds, viz; The *Declarative* and the *Imperative.* (a)The Declarative states a truth or is the simplest way of asserting something of the subject of thought. EXAMPLE: I see the moon. The Imperative sentence is used to make supplement or give commands, as; "Forgive us our debts as we forgive our debtors". Close the door. The *Interrogative* sentence is the declarative sentence framed to ask a question, while the exclamatory may be any of the three foregoing forms when used to express sudden feeling or emotion.

26. The *Subject* and *Predicate.*

27. In all sentences the *verb* or Predicate, must be expressed. The *Subject* however, may be omitted and only implied. We know that in the sentence, *Come.* we have the asserted meaning of a command and can readily see that the speaker is talking to someone, but as the identity of the person thus commanded is concealed, we use the pronoun *you* instead of the name. Hence; we know that (You) come, is meant.

28. *Analysis* is for the sole purpose of imparting a clear meanin to the thought contained in the sentence.

29. An *expletive* is a superfluous word made use of in the sentence to augment its beauty or ease of expression. It bears no grammatical relation to the sentence of which it forms a part. EXAMPLE: *There* is comfort in knowing that we have done our duty. In this sentence *there* is used to add to the grace and ease of expressing the sentence; Comfort is in knowing that we have done our duty. "There" and "it" are the expletives most frequently used.

30. The principal marks of punctuation are: (a) *comma,* (b) *semicolon,* (c) *colon,* (d) *interrogation point,* (e) *exclamation point,* (f) *period.* The first three are used within the sentence while the others are terminal marks. (a) The *comma* is used to indicate a short pause, either of sound or meaning. EXAMPLE: This process, so simple to describe, is difficult to carry out. We raise corn, wheat and barley. (b) The *semicolon* is used to separate parts of a sentence more loosely connected than those connected by the comma. It shows that there is something to follow having a direct bearing upon what has proceeded, and is used before: *such as, viz, i. e., e. g., to-wit, etc.* EXAMPLE: To maintain life plants must have these essential elements; viz; heat, light and moisture. His stature was tall; his figure ungainly. (c) The *colon* precedes an after-thought, example in the way of explanation, or a formal quotation; as, His words were these: "Where I am there ye may be also."

Example: $6 \times 9 = 54$. (d) The *Interrogation point* is used in closing declarative sentences, which are used in asking questions. EXAMPLE: Did you see the French General? (e) The*Exclamation point* is used at the close of a *declarative; interrogative-declarative,* or *imperative* sentence when used to express sudden feeling or emotion. It is also used after *interjections* or other exclamatory words contained within the sentence. EXAMPLES: Oh, that my youth may endure! Pooh! We agree with nothing you say. (f) The *period* is used at the close of all *Simple Declarative* sentences, and after all abbreviations. EXAMPLE: I saw the aeroplane. Sept., Mr., etc.

American History

QUESTIONS

1. What was the first motive of Columbus in desiring to go to the Indies? Why this motive?

2. What happened in 1453 that gave him a second motive?

3. Who really discovered America? After whom was it named?

4. What happened about this time that proved that it was a new and distinct continent? Was Europe pleased to learn this fact? Why.

5. What four countries soon began to send out explorers to the new continent?

6. From what countries were the following men sent out as explorers? *Ponce De Leon, Cartier, Balboa, Laudonneirre, De Soto, Champlain, Menendez, Drake, Cabrillo, Hudson, Espejo.*

7. Mention one important thing that each of the above did.

8. What is the oldest settlement on the mainland of the United States?

9. What was the greatest result of the discovery of America?

10. Four countries soon had claims to the new territory. These claims conflicted. How were the disputes which arose over the boundaries finally settled?

11. With what colony would you associate each of the following? *The Bacon Rebellion, Stuyvesant, Standish, The Toleration Act, Providence, The Great Law, Silk Culture, Mason, Charter Oak, Bergen, Grand Model, Christina.*

12. Mention three forms of colonial government, distinguish between them, and name a colony that was governed under each.

13. What was the first written American constitution?

14. In what colony did our common school system originate?

15. What three colleges were founded during colonial time?

16. How did *The Mason and Dixon Line* originate? For what was it famous?

17. Why were the Navigation Laws so injurious to Virginia?

18. In what colony was a wigwam once used for a church? What was the religion of these people?

19. Mention four inter-colonial wars. What was the chief cause of these wars?

20. What were the two greatest results of the inter-colonial wars?

21. What can you say of American commerce about 1760?

22. Tell something about the character of the King of England at this time and of his attitude toward the American Colonies?

23. To show his disregard for the colonies, what did he begin to do? What did this cause the Colonies to demand? Did they get it? Was it ever offered? When?

24. What was *The First Continental Congress?* What was its object?

25. What was the real cause of the of the Revolutionary War?

26. Previous to 1776, for what had the Colonists been fighting? What declaration was made in that year? From then on, for what were they fighting?

27. What victory caused a European country to acknowledge the independence of the Colonies? What country was it? How did England regard this action?

28. What victory practically ended the war? Who were the opposing generals?

29. In what country was the treaty of peace signed and what did it give the United States?

30. What was *The First National Constitution?* When was it adopted? Was it satisfactory? Why?

31. When was a new constitution made? What man probably did more than any other to secure its adoption by the states?

32. What were the six objects of the constitution?

33. What were the first two political parties to arise and what was their chief difference? Which elected Washington president?

34. Name the offices and officers of Washington's Cabinet?

35. What plan was used to pay the debt that was incurred during the revolution?

36. To what man may be given the credit of financing the new nation and placingit on a sound footing as to credit?

37. What was the real cause of the War of 1812?

38. Why was war not declared against France for the same reason?

39. When and where was slavery first introduced into the United States? Where did it flourish and to what did its growth finally lead?

40. Briefly explain in connection with slavery: *Cotton gin, Smuggling, Missouri Compromise, Kansas-Nebraska Act. Dred Scott Decision, Wilmot Proviso, Omnibus Bill.*

41. What was *The Fugitive Slave Law? The Under-ground Railroad? "Uncle Tom's Cabin"?*

42. What was the real cause of the Civil War? The real cause for secession?

43. Which was the first state to secede? What six others soon followed?

44. By what name were the seceded states known? What was their capital?

45. Who did they elect president? Vice president?

46. What was peculiar about their constitution?

47. In Lincoln's first call for volunteers, what was the object number, length of service and response?

48. Did Davis call for volunteers? What was the response?

49. In what way was the battle of Bull Run a Northern victory? In what way a southern defeat?

50. Soon after the battle of Bull Run, what four plans for the war did the Union make?

51. Who were the opposing generals, the approximate number of men on each side, and the result of the most stubbornly fought battle of the Civil War?

52. What were the two greatest results of the Civil War?

53. Compare conditions in the North and South at the close of the Civil War.

54. In what way did Johnson become president? What difficult work did he at once begin?

55. What was *The Tenure of Office Act*?

56. Why was Johnson impeached? Who preferred the charge? Who tried the case and what was the result?

57. What do the thirteenth, fourteenth and fifteenth amendments say about the negro?

58. Explain: *Carpet Baggers, Ku Klux Klan.*

59. Compare *The Spoils System* with *The Civil Service Reform.*

60. What was *The Presidential Sucession Act?* Give the order of succession.

61. What was the immediate cause of our recent war with Spain? What did the war prove in reference to the Union?

62. When and where was the first U. S. Bank? For how long was it chartered?

63. What were the two greatest periods of speculation that our country has ever known?

64. What three capitals has the United States had?

65. What great lesson did *The Whiskey Rebellion* teach?

66. What was the greatest geographical discovery of modern times?

67. Who said, *"Taxation without representation is tyranny."*?

68. How was the territory of Alaska acquired?

69. Who invented the telegraph? The telephone? The wireless?

70. Who are our martyrs?

American History

ANSWERS

1. (a) He desired to go as a missionary. (b) Because of his deep religious convictions.

2. The Turks captured Constantinople, thus practically closing the routes of the chief trading countries of Europe, with the east. Therefore, to find a new route to India was Columbus' second motive.

3. (a) John Cabot. (b) Amerigo Vespucci.

4. (a) The circumnavigation of the globe. The expidition was under Magellan, who was killed on the voyage, but the commander of one of his ships kept on and finally sailed around the world. (b) No. (c) Europe wanted a direct water route to the Indies and America stood in the way.

5. Spain, France, England and Holland.

6. (a) Spain, (b) France, (c) Spain, (d) France, (e) Spain, (f) France, (g) Spain, (h) England, (i) Spain, (j) Holland, (k) Spain.

7. Ponce de Leon discovered Florida; Cartier ascended the St. Lawrence river and named Montreal; Balboa discovered the Pacific Ocean; Laudonniere built a fort on the St. Johns river in Florida; De Soto discovered the Mississippi river; Champlain established a trading post at Quebec; Menedez founded St. Augustine in 1565; Drake was the first Englishman to circumnavigate the globe; Cabrillo made the first voyages along the coast of California; Hudson discovered the Hudson river in 1609; Espejo made explorations in New Mexico and founded Santa Fe in 1582.

8. St. Augustine, Florida.

9. It broadened men's minds. They began to think of the world in a new light.

10. The disputes which arose over conflicting claims were finally settled by wars.

11. (a) Virginia, (b) New York, (c) Massachusetts, (d) Maryland, (e) Rhode Island, ((f) Pennsylvania, (g) Georgia, (h) New Hampshire, (i) Connecticut, (j) New Jersey, (k) North and South Carolina, (l) Delaware.

12. (a) Charter, Royal and Proprietary. (b) Under Charter government, the Governor was elected by the people; under Royal government, the governor was appointed by the King, under Proprietary government, the governor was appointed by the proprietor or his heirs. (c) Connecticut had charter government, New York Royal and Pennsylvania proprietary.

13. The Connecticut constitution, drafted at Hartford in 1639.

14. In Massachusetts.

15. Harvard, Yale, William and Mary.

16. Pennsylvania and Maryland were in dispute over the boundary line which separated them. Mason and Dixon, two noted English surveyors, were employed to establish a line which would be satisfactory to both colonies. This line went down into history as marking the division between the free and slave states formed from the original thirteen.

17. Under these laws Virginia could not ship tobacco except in English vessels going to England. The Virginians were forced, then, to sell at whatever price the English merchants offered them. Their chief trade, tobacco, would be nearly ruined if these laws were enforced.

18. (a) Maryland. (b) Catholic.

19. (a) King William's War, Queen Anne's War, King George's War, and The French and Indian War. (b) Quarrels between the mother countries.

20. They more closely united the colonies and trained a large number of men to fight. This training was soon found useful in the Revolutionary War.

21. By trading with the French and Spanish, a very profitable commerce had been built up by the Colonists, especially by the New Englanders.

22. King George III was a narrow minded man, very set in his ways, and at times insane. He had but little regard for the rights of the Colonists and soon began to use his influence toward taking away many of their privileges.

23. (a) He influenced Parliament to place various kinds of taxes on the colonists. To oppress them seemed to be his object. (b) The Colonists then demanded representation in Parliament. (c) It was denied them. (d) This representation, however, was offered in 1778, just after France acknowledged the independence of the United States.

24. Delegates from many of the colonies met at Carpenter's Hall, Philadelphia, to plan a course of action. Oppression was becoming too great.

25. Taxation, by Great Britain, without allowing the colonists representation in Parliament.

26. (a) To defend their rights as subjects of Great Britain. (b) The Declaration of Independence. (c) They were no longer subjects of Great Britain. From then on, they were fighting for liberty and an independent and separate government.

27. (a) Saratoga, (b) France, (c) England became alarmed and offered the colonies representatives, in fact, offered them anything except that for which they were now fighting—liberty.

28. (a) Yorktown, (b) Lafayette and Washington were the generals on the American side and Cornwallis had charge of the British forces.

29. (a) Paris, France. (b) The thirteen original states, Maine and the territory west as far as the Mississippi river.

30. The Articles of Confederation framed at Philadelphia in 1776, formed the first national constitution. It was not adopted by the states until 1781 and proved very unsatisfactory because of its many weaknesses. It gave the states no head and Congress had but little power.

31. (a) In 1787. (b) Alexander Hamilton.

32. According to the preamble we may summarize them as fol-

lows: Union, Justice, Peace, Common Defense, General welfare and Liberty.

33. (a) Federalists and Anti-Federalists. (b) The Federalists favored a strong federal government, giving congress a great deal of power. The Anti-Federalists wanted to limit the power of congress and the national government by giving the states more jurisdiction. (c) Both parties united to elect Washington president.

34. Secretary of State, Thomas Jefferson; Secretary of War, Henry Knox; Secretary of Treasury, Alexander Hamilton; Attorney General, Edmund Randolph.

35. Congress passed the Tariff and Tonnage Acts to bring money into the treasury. The Tariff Act imposed a duty on imported goods and the Tonnage Act a tax per ton on foreign merchant ships entering American ports. Later a tax was placed on liquors.

36. Alexander Hamilton.

37. The impressment of American seamen.

38. France had probably impressed as many of our seamen as England had, but there was still a bitter feeling against England because of the Revolution and many of the leading statesmen favored a war against England. We were too weak to fight both countries, so war was not declared against France.

39. In 1619, twenty negros were sold to Virginia planters by a Duth trading vessel. They had been brought from Africa and as the production of tobacco was a great industry in Virginia then, they were used, more were brought and slavery began its existence and growth in America, finally leading to the Civil War.

40. (a) The cotton gin greatly increased the production of cotton, thus the need for more slaves. (b) The law of 1808 forbade the importation of slaves after that year, so thousands were smuggled in yearly. (c) The Missouri Compromise allowed Missouri to enter the Union as a slave state but excluded slavery from the remainder of the Missouri territory north of the parallel 30 degrees and 30 minutes

north. Maine was also to be admitted as a free state. (d) The Kansas-Nebraska Act divided Nebraska into two parts, the southern portion being called Kansas. The people of each state were given the right to choose whether they be free or slave. (e) Chief Justice Taney, in making a decision for Dred Scott, a negro slave who had sued for his liberty, declared that congress had no right or power to prohibit slavery in any territory. (f) The Wilmot Proviso was a bill purposed to exclude slavery from the territory obtained from Mexico. (g) The Omnibus Bill admitted California as a free state, New Mexico and Utah were to decide the question for themselves; a more stringent fugitive slave law was to be enacted; slave trade in the District of Columbia was prohibited and Texas was to be paid $10,000,000.00 to give up her claim on New Mexico.

41. (a) A law which provided for the return of runaway slaves. (b) This was not a railroad at all, but an organization whereby the fugitive slave was assisted to pass through the free states to Canada. (c) A book written by Mrs. Stowe, portraying slavery.

42. (a) The secession of southern states. (b) The real cause for secession was the feeling that had developed between the North and South, principally over slavery.

43. (a) South Carolina, (b) Mississippi, Florida, Alabama, Georgia, Louisiana and Texas.

44. (a) The Confederate States of America. (b) Montgomery, Alabama, but it was afterward moved to Richmond, Virginia.

45. Jefferson Davis was elected president and Alexander Stephens, vice-president.

46. Slavery was considered a lawful institution and a protective tariff was prohibited.

47. The object was to put down the rebellion and to recover the forts and other public property. The call was for 75,000 for three months' service. Over 200,000 responded.

48. The response was almost as great as in the North.

49. (a) The North saw that they had under-estimated the strength of the South. They learned the cause of their failure and began to train men and get ready for a long and bitter struggle. (b) The South on the other hand believed their strength greater than it really was. They were filled a hopefulness which they later found was much exaggerated.

50. (a) To blockade all southern ports. (b) To capture the Confederate capital. (c) To open and get control of the Mississippi river. (d) To cut the Confederacy in two.

51. General George G. Meade had command of the Union forces, about 100,000 in number. Lee commanded the Confedrates, 70,000 in number. Gettysburg was the place and after three days of fighting with a Union loss of 23,000 and a Confederate loss of over 20,000, Lee slowly retreated. But it was the turning point of the war and Lee's last attempt to invade the North. It weakened the Confederacy and discouraged the southern people.

52. It settled forever the great questions, slavery and "state rights".

53. In the North, the people were even more prosperous than at the beginning of the war. Business of all kinds had been carried on actively. In the South, destruction of property had made many poor and homeless, their ports had been blockaded, their slaves set free and on every hand there was hardship and poverty.

54. (a) When Lincoln was assassinated, Johnson being vice president, became president. (b) Reconstruction.

55. An act which prevented the president from removing any civil officer, which he had appointed from office, without the consent of the senate.

56. Because of his alleged violation of the "Tenure of Office Act". The House of Representatives made the charge and the case was tried by the Senate. He was acquitted. However, one more vote would have convicted him.

57. The thirteenth made him free, the fourteenth made him a citizen and the fifteenth made him a voter.

58. (a) They were politicians who hastened to some of the readmitted states in which negroes had been elected to office and by using their influence, robbed several of the states of millions of dollars. (b) A secret organization in the South, the object of which was to keep the negro from voting.

59. Jackson dismissed a number of men from office who were not of his political faith and in their place he appointed men who helped to elect him. This was known as "The Spoils System" and was practiced by all the presidents who succeeded him until the Civil Service Reform was adopted in 1883. By this method a regulation of the appointment to most offices was made by a competitive examination.

60. (a) An act which provided for the filling of the vacancy of the office of president, should both the president and vice-president be incapacitated. (b) Succession was to be as follows: Secretary of State, Treasury, War, Attorney General, Secretary of the Navy, and Secretary of the Interior. Three departments have since been added, the departments of Agriculture, Commerce, and Labor.

61. (a) The destruction of the battleship, Maine. (b) Ex-Confederates were as eager to assist in this war as any other Americans were, thus establishing the realization of what the Union really meant.

62. (a) In 1791, at Philadelphia. (b) It was chartered for twenty years.

63. The period following the removal, by President Jackson, of the government money from the United States Bank and placing it in state banks, and the period of profiteering following the close of the recent World's War.

64. New York, Philadelphia and Washington.

65. That the people were under a strong, national government, with power and determination to enforce its laws.

66. The discovery of the North Pole by Peary.

67. James Otis.

68. It was purchased from Russia in 1867.

69. (a) Professor Morse. (b) A. G. Bell. (c) Marconi.

70. Abraham Lincoln, James A. Garfield and William McKinley.

Arithmetic

QUESTIONS

1. What three reasons can you give for the study of arithmetic?
2. Why is arithmetic spoken of as one of the *common branches*?
3. What is a better plan than solving a problem for a child?
4. What about the use of words "will" and "would be" in giving solutions of problems?
5. Should problems be checked?
6. What is the difference between numbers and figures?
7. What accounts for 10 being the basis of our number system?
8. What is the value of a close study of notation and numeration?
9. What is the use of "and" in reading numbers?
10. Explain what is meant by units.
11. Distinguish between integral, decimal and fractional units.
12. What is meant by *place value* of a figure?
13. What is the benefit of having problems divided into classes?
14. When may one be said to have a good knowledge of a principle of arithmetic?
15. What can you say of the value of mental arithmetic?
16. What can be said of the value of a close study of addition, subtraction, multiplication and division?
17. Give rules for attaining accuracy and speed in addition.
18. What is probably the best check for addition? Subtraction? Multiplication? Division?
19. What is the difference between partition and measurement?
20. How do we waste time in arithmetic?

21. What can be said of the value of short cuts in arithmetic?

22. What is the cause of most difficulties in percentage problems?

23. Why should everyone learn something of bookkeeping?

24. Why should accounts be kept according to standard forms?

25. By what number must $17\frac{5}{8}$ be multiplied that the product will be 6?

26. A man who owned $\frac{5}{8}$ of a ship, sold two-fifths of his share for $1250. What is the value of the ship at this rate? What part of the ship does he still own?

27. What decimal of a rod is .165 of a foot?

28. How many acres in a street 66 ft. wide and $2\frac{1}{8}$ miles long?

29. Cleveland is 10° 42′ 51″ farther west than Boston. When it is 2 p. m. at Cleveland, what is the time, sun time, at Boston?

30. A company lost 4 per cent of its men in battle, 25 per cent of those that remained died of sickness. Then, there were 144 in the company. How many men at first?

31. I sold goods at a gain of 25 per cent and, investigating the proceeds, sold again at a loss of 25 per cent. Did I gain or lose in the entire transaction and what per cent?

32. A capitalist sent a broker $81,800.00 to invest in sugar. After deducting his commission of $2\frac{1}{4}$ per cent, how much sugar did he buy? What was the broker's commission?

33. If a man receives $10 per day wages, his income is equal to the income on what number of $50 Liberty Bonds, which draw 4 per cent?

34. A merchant insures his stock of goods for $9,000.00, this being 75 per cent of their value. The rate is $1.15 per thousand. What premium does he pay?

35. The assessed valuation in a certain district is $1,722,500. The amount to be raised by tax is $42,210. Find the tax on property assessed at $2,250.

36. What sum of money is borrowed if the interest for ninety days at 7 per cent is $2.80?

37. If a flag pole 40 ft. high cast a shadow 24 ft. long, how high is a tree whose shadow, at the same time is 81 ft. long?

38. A room is 40 ft. long, 24 ft. wide and 18 ft. high. What is the shortest distance from the upper N. E. corner to the lower S. W. corner.

39. A cubical box contains 50,653 cubic inches. What is the length of one side?

40. What is the shortest length of rod that can be cut exactly into 1¼ inch, 1½ inch, or 1¾ inch bolts?

41. A man has three trees 64 ft., 72 ft., and 88 ft. respectively in length. What is the greatest length saw-logs he can cut from them so that the cuts are all the same length and there is no waste?

42. (Use 3 1-7 as ratio of circumference to diameter)
The length of a circular racetrack at the inner rail is exactly ½ mile. The circumference at the outside of the track is 3,036 feet. What is the width of the track?

43. (Use 3 1-7 as ratio of circumference to diameter, and .7854 as ratio of area of circle to area of circumscribed square, answer true to three decimals).
How many square inches of tin are necessary to make a tin cup 2 1-3 inches in diameter, and 3 inches high, if 2.724 square inches be allowed for making handle?

44. The area of a field in the form of a trapezoid is 25 acres. The greater base exceeds the lesser by 40 rods. If the perpendicular distance between the two bases is 40 rods, what is the length of the shorter base?

45. Two perpendicular poles stand 18 ft. apart; if a man who is 5 ft. 8 in., to his eyes, standing 9 ft. from the shorter pole and looking over the top of it, can just sight the top of the taller, find the height of the taller, if the shorter is 15 ft. high.

Arithmetic

ANSWERS

1. Arithmetic should be studied; (a) because it is needed in the meat-and-bread affairs of life, (b) because it trains us to think clearly and systematically proportioning means to an end, and (c) because of its cultural value. Pythagoras, of old, studied for the last named reason alone—making the study of numbers the means of approach to the gods.

2. Because it has served the common needs of the common people.

3. Give him a more simple problem (one that he can solve) that involves the same principle and, so, lead him from the known to the related unknown. Herbert Spencer said; "So far as possible the child should make his own investigations and form his own conclusions."

4. These words should be avoided. Use: "is", "was", "gives" etc. To illustrate; instead of saying multiplying 75 by 4 "will" give 300, say multiplying 75 by 4 gives 300, and instead of saying 75 multiplied by 4 "wuld be" 300, say 75 multiplied by 4 is 300, etc.

5. Yes. Especially is this true for the student. When accuracy has become a habit with us, we may feel safe in dispensing with this process. The business world makes one urgent demand on us, and that is always the same—*be accurate.*

6. Numbers are measures of quantities—of things themselves, while figures are the symbols used to represent these numbers.

7. Hundreds of years ago, in the beginning of the development of arithmetic, the ancients recognized quantitative relations and indicated numbers by the fingers; hence, the origin of 10 as the basis of our number system.

8. Notation and numeration form the foundation of our "Mathematical sense". In other words we do not under-

stand much about relation of quantities until we are able to read numbers and write the figures representing them.

9. The word "and" does not properly occur in the reading of integers or fractions; but is used to join an integer and a fraction into one whole, as 404 is read *four-hundred-four,* .404 is read, *four-hundred-four thousandths,* and 400.004 is read, *four-hundred* and *four thousandths.* The same is true of common fractions, as; 4½ is read *four and one-half.*

10. Units are the standards by which we measure. They may be large or small.

11. The integral unit is the basic one. When the unit is one or a quantity considered as one, the unit is integral, as *one barrel, one gallon* or *one pint.* The barrel, the gallon, or the pint may be divided into tenths, hundredths, etc. Then the units are decimal. The barrel, gallon, or pint may be divided into halves or thirds. Then the units are fractional.

12. During the first 800 years of the use of figures to represent numbers, they had only *shape value,* i. e. as units. Then someone invented the "Zero" which has no shape value, but is used to change the position of the figures in use. Since then a figure has 10 times the value in a number that it had in the same number one place to its right. Hence the name, *place value* or *position value,* examples: 6, 60, 600, 6000.

13. Problems have been divided into classes, (such as percentage, mensuration, fractions, etc.) so that their general principles may be worked out and rules for solving formulated. With all this work done for us in advance, we only need classify our problem and proceed along proven paths, performing the mechanical work necessary to the solution.

14. One may be said to have a good knowledge of a principle of arithmetic, when he can state an original problem involving this principle and give a clear solution of it, assigning reasons.

15. *All problems are solved mentally.* The paper and pencil (or other device) are used merely to aid the memory in carrying the figures forward from one computation to another in the solution of the problem.

16. The mechanical part of the solution of any problem, regardless of its complexity, consists of these four processes alone. Therefore, it is highly important that we be able to add, subtract, multiply, and divide accurately.

17. (a) Be careful in formation of figures, (have them uniform in size, legible, simple and distinct in form).
(b) Strive for alignment of figures, both vertical and horizontal.
(c) Learn to give and take number dictation.
(d) Learn to copy figures accurately (do not transpose).
(e) Get a working knowledge of *grouping.*
(f) Practice continuously and systematically.

18. Probably the best check for addition is reverse adding, for subtraction is addition; for multiplication is division; for division is multiplication.

19. Partition and measurement are terms used in division. In *partition,* the divisor is an abstract number, as; 40 bushels divided by 4. In *measurement* the divisor is a concrete number, as; 4 bushels are contained in 40 bushels how many times?

20. While it is true that arithmetic has a cultural value, and teaches us to think clearly, we should devote our time to the study of those things for which the average person will have a practical need. There are enough things practical in arithmetic to give us the necessary cultural and mind-development work without going into a detailed study of obsolete material. It is waste to spend a great deal of time studying (a) Progressions; (b) Useless tables of measures, such as apothecary's weight; (c) Circulating decimals; (d) Equation of payments; (e) and problems that involve legthy solutions and answers. There may be reasons why some few people make a study of some of these, but that should be "specialized" work and not the work required of the average student, for they will have practically no use for this knowledge in everyday life. Therefore, it is waste of time and should be avoided.

21. In the upper grammar grades and in advanced arithmetic, as much attention should be given to the "why" as the

"how" in solving problems. However, after the pupil has mastered a principle and is able to solve the problem in the ordinary way, if he can learn a "short-cut" for obtaining the answer, it will result in a great saving of time for him all through his life and will cause increased interest in his work. The fact that the "short-cuts" are based on reason and can be explained should justify one in using them, whether or not, he has taken the time to figure out the reason. It is not best to devote a great deal of time to the learning of "short-cuts"; but, learn a few of the more common ones that can frequently be made use of in computations and use them in every case where opportunity presents itself.

22. The cause of most difficulties in percentage is *forgetting what is the base.* The beginner should invariably name the base after the word per cent until he has no difficulty in selecting the base from any percentage statement.

23. That he may be able to keep accurate accounts of his personal or business transactions. The habit of keeping accurate accounts tends to make one careful in business and leads to economy and thrift.

24. Because our accounts are for other eyes besides our own. To make our accounts easily understood, they should conform to certain standards.

25. The principles of division. 16-47 ans.

26. The principles of common fractions. $5,000 value, and 3/8 remainder, ans.

27. The principles of decimal fractions and long measure. .01 of a rod, ans.

28. The principles of long measure, sq. measure, and the rectangle. 17 acres, ans.

29. Principles of Longitude and Time. 2-42-51 2/5 p. m., ans.

30. Principles of percentage. 200, ans.

31. Principles of percentage—profit and loss. Lost 4 per cent, ans.

32. Principles of percentage—commission and brokerage. 800,000 lbs. sugar. Com. $1,800, ans.

33. Principles of percentage—Stocks and Bonds. 1,825 bonds, ans.

34. Principles of percentage—Insurance, $10.35, ans.

35. Principles of percentage—Taxes, $81, ans.

36. Principles of percentage—Interest, $160, ans.

37. Principles of proportion. 135 feet high, ans.

38. Principles of the triangle and sq. root. 50 feet, ans.

39. Principles of cube root, 37 inches, ans.

40. Principles of Least Common Multiple. 52½ inches, ans.

41. Principles of Greatest Common Divisor. 8 ft., ans.

42. Principles of the Circle. 63 ft., ans.

43. Principles of the Circle and Cylinder. 39 sq. in., ans.

44. Principles of the Trapezoid. 80 rods, ans.

45. Principles of similar figures and proportion. 33 ft. 8 in., ans.

Geography

QUESTIONS

1. How far have you traveled since this time last year?
2. Are we nearer the Sun in Winter or Summer?
3. How do you account for the colder weather in Winter?
4. Aside from maintaining life, of what value is the atmosphere?
5. What great *astronomical* discovery has recently been made and by whom?
6. When it is exactly noon, (Sun time) how many *degrees* East or West is it 2:00 p. m.?
7. If a hole were bored entirely through the earth, would a stone dropped in at one end come out at the other?
8. Suppose that all living creatures as well as all movable objects such as trains, automobiles, aeroplanes, steamships, etc., should simultaneously move eastward, would it *retard* or *hasten* the Earth's rotation?
9. Why do we always see a "New Moon" near sundown?
10. Is it the Earth's *shadow* upon the Moon that keeps us from seeing the entire sphere at "New Moon"?
11. What are *Stalactites? Stalagmites*?
12. Why does a "Geyser" spout water periodically instead of constantly?
13. What do you understand by the "internal fire"?
14. What is a "kettle hole"?
15. How were our Great Lakes formed?
16. Why is our Great Salt Lake salty?
17. What is peculiar to the Humbolt river?
18. How are diamonds produced?

19. Where and what is Mauna Loa?

20. Where and what is Mato-Tepee?

21. What are *monsoon* winds?

22. Which way does a whirlwind turn? Why? Do they always turn the same way?

23. (a) What and where are the *Horse Latitudes*? (b) Why so called?

24. What are the *Doldrums*?

25. How is the width of the *zones* determined?

26. What would the width of the *zones* be if the Earth were inclined 40 *degrees* instead of 23½?

27. A bottle which was recently picked up on the shores of England, was found—by a note inside—to nave been cast into the Gulf of Mexico a few months before. How do you account for this?

28. Why are some fishes of the sea known as deep sea fish?

29. To what family of fishes does the *whale* belong?

30. (a) What peculiar sensation would you experience upon ascending to the top of a lofty mountain? (b) Upon descending?

31. What is the highest mountain in the world?

32. Where is the "Land's End"?

33. Where and what are the greatest ocean depths?

34. Where and why so called is, "The Land of the Midnight Snn?"

35. What is the name of the world's longest railroad tunnel and where is it located?

36. What is the greatest sheep raising country in the world?

37. What is peculiar of the habits of the Salmon fish?

38. What body of water is considered the most beautiful in the world?

39. What and where is the world's most expensive metal mined?

40. What can you say of some of the greatest known gold fields?

41. Where is Ascension Island?

42. What is the smallest state in Europe and for what is it noted?

43. Where are the "Celestial Mountains"?

44. Where is the region of greatest rainfall on the globe?

45. Name a large city in the United States which is entirely surrounded by water.

Geography

ANSWERS

1. Taking into consideration that all of us do not live in the same latitude, it is impossible to answer with any degree of certainty which would apply in all cases. Suppose, however, that we all live on the Equator. We would travel a rotary distance of 25,000 miles each day or an approximate distance of 9,125,000 miles for the year, or 365 days. This however, is a small part of our almost unconceivable yearly spiral. We have made the complete circuit of the Earth's orbit (or path around the Sun) which, combined with the rotary distance, figures about 600,000,000 miles. This does not take into account the distance you have walked, and traveled in your "Tin Lizzie".

2. Winter. The Earth's orbit is an elipse, the Sun being in the position of one of the foci. Our winter occurs while we are nearest this foci, but owing to the inclination of the Earth's axis, the Northern Hemisphere receives the more tangent rays at that part of the orbit, therefore, they are not as effective in producing heat.

3. As will be noted in the foregoing answer, the sun's rays are not quite so effective, but there remains another *very important reason.* The vertical rays of the Sun being thrown 23½ degrees South of the Equator, throws us in the North Westerly winds bringing from the polar regions that chilly air which leaves no doubt that winter is with us.

4. Were it not for the atmosphere to absorb and diffuse the light and heat of the Sun we would have a climate or temperature of extremes. When the Sun shone direct upon us, we would be almost burned up while at night the temperature would fall possibly far below zero even in summer weather.

5. The discovery of a star in the constellation Orion, which is estimated to have a diameter of 260,000,000 miles. Its discoverer is Dr. Michaelson.

6. 30 degrees East.

7. No. Owing to gravity it would go only a short distance beyond the center when it would be pulled back and eventually come to rest in space at the center.

8. It would be retarded.

9. Because at no time other than that at which the moon occupies a central position as regards the Earth and Sun can a *New Moon* or *last quarter* be possible. The last quarter occuring slightly before the Moon reaches that position, the "New Moon" slightly after.

10. No. The illumined hemisphere of the Moon being toward the sun, we look upon its dark or "shaded" side, except a narrow rim of the lighted portion that we see called the "New Moon."

11. They are lime formations in caverns or caves where water carrying lime in its solution drips through the roof and by evaporation, etc., leaves hanging an icicle-like projection from the roof known as a *Stalactite*. From the dripping end of the *Stalactite* a *Stalagmite* is formed on the floor of the cave, which rises to meet the *Stalactite*. They frequently meet and join forming a beautiful continuous column extending from ceiling to floor. While the queer formations are usually white, they sometimes are of varied color or even transparent, making, when exposed to light, a sparkling beauty which no artist can imitate.

12. The stream of water which shoots upward from a geyser is caused by a terrific steam pressure from the molten rocks beneath. Consequently, when this water is blown out, the pressure then escapes and some time is required before sufficient force of steam is again attained to drive out the water which has in the meantime accumulated.

13. The *internal fire* has probably existed from time immemorial. The Earth is supposed at one time to have been a white hot, molten mass of which only the outer crust has cooled off, leaving the inner part as in the beginning. This frequently bursts to the surface through its "breathing holes", the volcanoes, and sends out great quantities of melted rock and other minerals which sometimes form great lakes or

even flow down the valleys to distances sometimes exceeding thirty miles.

14. A *kettle hole* is a cone shaped basin in the Earth. They are of varied diameters and depths and are usually found along the terminals of the old glaciers and are supposed to occupy the place held by large blocks of ice which were *buried* underneath the Earth's surface.

15. Our Great Lakes were probably formed by the visits of the ice sheets which, with their immense weight scraped or scooped out large basins in some places, while in others, along their melting edges, dammed up may valleys thereby forming not only the few Great Lakes but many smaller ones throughout Canada and north-eastern United States.

16. The Great Salt Lake at one time occupied some eight or ten times its present area and emptied its fresh waters thru the Snake into the Columbia River. Owing, however, to decreasing rainfall in that region the lake no longer has an outlet and consequently is dead or salt. Water having become so by retaining its mineral salts, which in its career as a fresh water lake were carried out into the sea.

17. The peculiarity of the Humbolt river is the fact that it *has no outlet.* After winding its way for three hundred miles through the arid basin of Nevada, it finally broadens into a small lake, from which the evaporation and sand take up its waters at about the same rate they are poured into it.

18. The *diamond* is pure carbon produced deep in the Earth through centuries of terrific pressure. They usually find their way to the surface through volcanic eruptions.

19. *Mauna Loa* is one of the most active volcanoes of Hawaii, being located near the south central part. The crater of Mauna Loa is some two miles wide and three miles long, and in the middle there usually stands a lake of molten lava some forty or fifty acres in extent. This lake seldom overflows the rim of the crater, but sometimes bursts out through the sides of the mountain and in some instances has been known to flow *even to the sea,* which is some thirty miles distant!

20. Mato-Tepee is in Wyoming. It is the hardened lava *core* which at one time filled the crater of an active volcano. As the volcano—of which only the center core remains—has for ages been inactive, its sides have eroded away and left only this huge *plug* or *core,* which stands out of the ground today at a height of about 600 feet.

21. *Monsoon* winds are those which are reversed at opposite seasons of the year. The best example of them is over the Indian Ocean, where during the Summer months they blow from the South West, but during the Winter months are reversed and blow from the North East. The word *Monsoon* literally means, a season.

22. A whirlwind or cyclone north of the Equator turns contrary to the clock hands. This is due to the fact that the Earth is rotating from West to East, and as the greater speed is at the Equator, it naturally follows that the side of the whirlwind next to the faster motion will turn with it. South of the Equator the movement is opposite, or clockwise.

23. The *Horse Latitudes* are the tropical calms under an "as sumed name." We are informed that in the days of the old sailing vessels, sailors sometimes went astray and found themselves in the cal mbelt. As the sailing while in the belts, was very slow, owing to the calmness of the ocean and the heavy cargoes, with which they were frequently loaded, they sought to lighten the load by throwing overboard a part of the cargo. Many of the early sailing vessels carried horses which were being shipped to the New World and as the fresh water supply is limited on a ship, it naturally fell to the lot of the horse to be *unloaded* at these times. Owing to this fact, the Tropical Calms are yet known by the name *Horse Latitudes.*

24. The *Doldrums* like the *Horse Latitudes* is a calm belt. The Doldrum belt is about five or ten degrees wide and extends around the world in the vicinity of the Equator. The word in reality means *vexation* or *grief,* and was so named by the unlucky sailors who sometimes found themselves caught in them for weeks, before there was enough wind to take them from this zone of *grief,* or *Doldrums.*

25. The width of the Earth's zones is determined by the Earth's inclination of 23½ degrees. The *Torrid zone* is that part of the Earth's surface which at sometime in the year receives *vertical rays.* Therefore, it is twice 23½ degrees or 47 degrees. The *Frigid zones* at some time in the year re- *tangent rays.* Consequently they are each 23½ degrees wide. The part of the Earth's surface which is left receives *neither vertical nor tangent* rays at *any season* of the year and is 43 degrees in width. They are two in number and have a total width of 86 degrees. These are the *Temperate zones.*

26. The *Torrid* would be 80 degrees, the *Frigids,* forty degrees each, and the *Temperate* zones 10 degrees each.

27. The bottle was probably caught in the great *eddy* in the North Atlantic Ocean, known as the *Gulf Stream,* which travels in some places at a speed of eight miles per hour. This stream or eddy is caused by the prevailing winds which blow over it.

28. The fishes known as *deep sea* fish are so called because of the fact that they can live only in deep water, or waters of great pressure. Some are known to live so far below the surface as to be always in utter darkness, consequently, some species have no eyes. They usually die before reaching the surface, owing to the great change in pressure.

29. The whale has lungs and breathes as you or I, hence, is not a fish but an acquatic animal.

30. Upon ascending to a region where the atmosphere is more sparse, you seem unable to breathe a sufficient amount of of air. The ear drums have a very uncomfortable pressure from within, which frequently must be relieved by holding the nose and swallowing. The blood sometimes bursts from the eyes, nose, etc. This is due to the fact that our bodies are of a greater pressure than the surrounding air and this pressure in seeking to equalize itself not only causes us discomfort, but may cause bleeding as well. Upon descending a depressing sensation is experienced being somewhat of a reverse of that experienced while ascending. If we remain, however, for any length of time

in the same place our pressure equalizes with the surrounding air and we notice no unpleasant feeling whatever.

31. *Mt. Everst* of the Himalaya Range in Nepal is the highest peak in the world being over 29,000 feet.

32. The *Lands End* is a cape or promontory in the southwestern part of England.

33. The deepest soundings so far have been in the Pacific Ocean. The exact depth is not known, but at six miles no bottom was found.

34. The northern part of Norway is known as the *"Land of* the Midnight Sun", it being so far within the Arctic Circle as to allow one to see the Sun at midnight as well as during the day for a period of seventy-five days during the Summer.

35. The World's longest railroad tunnel is cut through the Alps Mountains and connects Switzerland with Italy. It is cut at an elevation of nearly 4,000 feet, its length being over nine miles! It is considered a marvelous work of engineering. In its construction the engineers began digging at each end of the tunnel, meeting in the center. The mathematical calculations are said to have been figured with such exactness as to cause the two tunnels to meet with such precision as to be almost imperceptible to the keenest eye or most delicate instrument. Its name is St. Gothard tunnel.

36. The greatest sheep raising country in the world is Australia.

37. The Salmon fish is one of the few which can live in either salt or fresh water. It comes upstream in the late Spring to spawn and soon after dies. The young after being hatched float down stream, tailfirst, into the salt water where they mature and afterwards return to fresh water to spawn and die, thus ending their short but eventful lives. It may be interesting to know that fishermen take advantage of these habits in making their large catches, which sometimes amount to several tons even in one night. When the salmon are ascending the rivers, they swim in great schools with part of the head above the water.

38. Lake Lucerne in Switzerland is considered the most beautiful of still waters in the world. It is visited every year by thousands of tourists from all parts of the Globe.

39. The world's most expensive metal is mined mostly in the Ural Mountains and Colorado. It is *Radium* and is obtained from a rock known as hornblend. There is at the present time not more than three ounces in existence, but it is valued at over $3,000,000 *per ounce!* The metal nearest it in value is *Platinum,* worth about $160.00 *per ounce.* In the process of separating *Radium* from the ore it is said to go through about 1,000 processes, and requires months. It is used in treating disease mostly, but if it were not for the prohibitive price we would be able to read at night by the light which it gives off. Read about this most useful and valuable metal.

40. The greatest gold fields of the world are the U. S. fields, including Klondike region of Alaska, the California and Colorado fields. Other great fields are in Africa, Australia and Russia.

41. Ascension Island is a lonely island in the Atlantic Ocean. It is owned by England and used as a coaling station.

42. The smallest state in Europe is Monaco in Italy. It is only about eight square miles in area. It contains the city of Mote Carlo which is supposed to be the world's most famous and fashionable gambling resort.

43. The *Tian Shan* mountains are known as the "Celestial Mountains". They are in Turkestan and border the Chinese Empire.

44. The region of the greatest rainfall in the world occurs in eastern India, on the south and west slopes of the Himalaya mountains. It is caused by the sudden chilling of the air carried by the *monsoon* winds when ascending the steep slopes.

45. The largest city in the United States which is entirely surrounded by water is, Key West, Florida.

Civil Government

QUESTIONS

1. (a) What is government? (b) What is the purpose of government?
2. What are the duties of any government?
3. Mention several kinds of government to which a person may be subject.
4. State three reasons why we have states.
5. When did our nation really begin its existence?
6. What instrument, on which the new government was to be instituted, was then drafted?
7. Why did it not go into force until 1781?
8. How many branches of government were provided for under *The Articles of Confederation*? Of how many houses was Congress composed? What was the greatest defect of this form of government?
9. What three compromises were made before the present constitution was accepted?
10. For how many departments did the new constitution provide? From what was this idea taken?
11. What branch did the framers of the constitution consider the most important?
12. According to the preamble, how many objects did the framers of the constitution have? Name them.
13. What does the legislative branch do?
14. Of what does it consist?
15. Of what is the *House of Representatives* composed? For how long are they chosen?
16. What qualification must a United States representative have?

17. How is the number of representatives apportioned?

18. How are vacancies filled in the lower house?

19. What are some exclusive powers of the lower house?

20. Under the constitution proper, of what does the Senate consist? How are the senators chosen and what is the length their term? Do they vote separately?

21. What are the qualifications of a United States senator?

22. Who is president of the Senate? When, only, may he vote?

23. Who chooses the other officers of the Senate?

24. Who tries all cases of impeachment?

25. Who is presiding officer in such cases?

26. Who prescribes the time, place and manner of holding elections for representatives and senators?

27. Could such regulations be changed?

28. Of what does Congress consist? How often and when does it meet?

29. Who is the judge of the elections, returns, and qualifications of the two houses?

30. What is a quorum?

31. Who determines the rules of the proceedings of Congress and has power to punish the members for diorderly conduct?

32. How many votes are necessary to expel a member from either house?

33. Who keeps a journal of the proceedings of Congress? Are they published?

34. What is said in the Constitution about the adjournment of congress?

35. Who fixes the compensation of the members of congress and from what is it paid?

36. In what cases are cnngressmen not privileged from arrest during their attendance at Congress?

37. Could a congressman hold any other civil office? Why?

38. What bills *must* originate in the lower house? Why not in the Senate?

39. What bills may originate in the Senate?

40. In what three ways may a bill become a law?

41. Mention six powers of Congress.

42. Repeat *The Sweeping Clause* of the Constitution.

43. Mention five things that Congress cannot do.

44. Name five unconditional restrictions that were placed on the States by the Constitution.

45. Define: felony, piracy.

46. What are *letters of marque and reprisal*?

47. What is a *Bill of Attainder*?

48. What is *an ex post facto law?*

49. What is *a writ of habeas corpus*?

50. Define: naturalization, bankruptcy.

51. In whom is the executive power of the United States vested? What is the length of his term?

52. By whom is the President and Vice-President elected and what determines the number of electors?

53. Explain two ways in which the President may be elected. The Vice-President.

54. What qualifications must the President have? Is the same true of the Vice-President?

55. What oath does the President take? In it, how many things does he pledge?

56. What are some powers of the President?

57. What is his most important duty?

58. Define: reprieve, commutation, pardon.

59. Of what is the judicial department composed?

60. Explain the difference between original and appellate jurisdiction of the supreme court.

61. What is treason? Who declares the punishment for treason?

62. What is *the supreme law of the land?*

Civil Government

ANSWERS

1. (a) Government is society, organized. (b) The purpose is to establish and carry on public works, to establish justice, and to secure a means of defense.

2. It must protect the citizens who do right and punish those who do wrong. It must administer justice to all.

3. School, township, county, state, federal and municipal.

4. (a) In the settlement of the colonies, different climatic conditions gave rise to different industries, thus, the necessity for different laws. (b) In our government, the power is kept as near the people as possible. (c) We have states now, because we had them at the time the government was formed.

5. July 4th, 1776, the date of the adoption of the Declaration of Independence.

6. The Articles of Confederation.

7. The Articles of Confederation were not to go in force until ratified by all the states. Maryland did not ratify them until 1781.

8. (a) Only one branch was provided for—the Legislative. (b) Congress consisted of one house. (c) Their greatest weakness was that they did not place enough power in the hands of the government.

9. (a) In regard to representation, to satisfy both the large and the small states, it was decided that congress should consist of two houses. The House of Representatives to consist of members chosen by the people of the different states according to their population and the Senate, composed of two members from each state. (b) In regard to whether or not, the slaves should be counted in the population as to representation in Congress, it was decided that three-fifths should be counted both as to representation and taxation. (c) In regard to commerce and the protection of slave

holders, it was decided that congress should have entire control of commerce, that the importation of slaves might be prohibited after 1808 and that runaway slaves should be returned to their masters.

10. (a) Legislative, Executive and Judicial. (b) From the Connecticut constitution.

11. The Legislative Branch.

12. (a) Six. (b) We, the people of the United of the United States, *in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty* to ourselves and our posterity, do ordain and establish this constitution for the United States of America.

13. It makes the laws.

14. It consists of a Senate and a House of Representatives.

15. It is composed of members elected by the people of the several states. They are elected for two years.

16. They must be at least twenty-five years old, an inhabitant of the state from which they are chosen and must have been a citizen of the United States seven years or more.

17. According to the population.

18. When a vacancy occurs in the representation of any state, the Governor of that state calls an election to fill such vacancy.

19. They choose their speaker and other officers and have the sole power of impeachment.

20. (a) Of two senators from each state, chosen by the legislature thereof, for six years. (This has since been changed by the Seventeenth Amendment to the Constitution). (b)

Yes, each senator has one vote.

21. They must be at least thirty-five years of age and have been nine years a citizen of the United States and must be an inhabitant of the State from which they are chosen.

22. (a) The Vice-President of the United States. (b) He has no vote except in case of a tie.

23. They choose their other officers themselves. They choose, also, a President Pro Tempore to serve in the absence of the Vice-President.

24. The Senate.

25. When the President is tried, the Chief Justice presides. In all other cases the Vice-President is the presiding officer.

26. It is prescribed in each state by the legislative branch thereof.

27. They might be changed by congress with the exception of the place of choosing senators.

28. Congress is composed of the Senate and the House of Representatives. It meets, at least, once every year, on the first Monday in December, unless they should by law appoint a different day, which has never been done.

29. Each house is judge, separately, in such matters.

30. A majority of either house constitutes a quorum to do business.

31. Each house has these powers over its members.

32. Two-thirds of that particular house.

33. Each house. Yes.

34. Neither house, during the session of congress, shall without the consent of the other, adjourn for more than three days, nor to any other place than in which the two houses shall be sitting. In case of disagreement between the two houses as to time of adjournment, the President may adjourn them as to such time as he may think proper.

35. It is fixed by law, and is paid out of the U. S. Treasury.

36. Treason, felony and breach of the peace.

37. No. The idea of this clause is to keep the three branches of government entirely separate.

38. All bills for raising revenue. Because the lower house is composed of representatives who are nearer to the people.

39. Any bills except for raising revenue.

40. (a) Every bill which shall have passed the House of Representatives and the Senate, shall before it becomes a law, be presented to the President of the United States; if he approve, he shall sign it, (b) but if not, he shall return it, with his objections, to that house i nwhich it shall have originated, who shall enter the objections at large on their journal, and proceed to reconsider it. If, after such reconsideration, two-thirds of that house shall agree to pass the bill, it shall be sent, together with the objections, to the other house, by which it shall be likewise considered, and if approved by two-thirds of that house it shall become a law. But in all cases the votes of both houses shall be determined by yeas and nays, and the names of the persons for and against the bill shall be entered on the journal of each house respectively. (c) If any bill shall not be returned by the President within ten days (Sundays excepted) after it shall have been presented to him, the same shall be a law, in like manner as if he had signed it, unless the Congress, by their adjournment, prevent its return, in which case it shall not be a law.

41. Congress has power to lay and collect taxes; to borrow money; to regulate commerce; to establish a uniform rule for naturalization and also uniform rules on bankruptcy; to coin money and regulate the value thereof; to fix the standard of weights and measures; to provide for the punishment of counterfeiting; to establish post roads and post offices; to grant copyrights and patents; to constitute courts inferior to the supreme court; to declare war; to grant letters of marque and reprisal; to raise and support armies; to provide and maintain a navy.

42. To make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by the Constitution in the government of the United States, or in any department or office thereof.

43. Congress cannot suspend the privilege of the writ of habeas corpus, except in case of rebellion or invasion; no bill of

attainder or ex post facto law shall be passed; no capitation or other direct tax shall be laid, unless in proportion to the population; no duty or tax shall be laid on articles exported from any state; no title of nobility shall be granted.

44. No state shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold or silver coin a tender in payment of debts; pass any bill of attainder, ex post facto law, or law impairing the obligation of contracts; grant titles of nobility.

45. A crime which is punishable by death or imprisonment is a felony. Robbery committed at sea is called piracy.

46. They privilege or authorize a private citizen to go into the enemy's territory and seize persons or property. They are usually issued only in time of war.

47. One which would cause the infliction of death or other punishment without giving the accused a trial by jury.

48. An act is committed. It is not a crime. An ex post facto law would make it such. An ex post facto law might also place a greater punishment on the accused than was so when the crime was committed.

49. By obtaining a writ of habeus corpus, a person must be given a speedy trial to determine the reason for his imprisonment.

50. (a) The process of making a foreigner a citizen of the United States is called naturalization. (b) A person who has been declared by a court to owe more than he can pay is a bankrupt.

51. The President. Four Years.

52. (a) By electors. (b) Each state may have as many electors as it has senators and representatives.

53. The person having the greatest number of votes for President is declared elected if such number be a hajority of all the votes cast. If no person receives a majority, the House of Representatives choose the president from the three high-

est voted for as president. The same applies to vice-president with the exception that he is chosen by the Senate in case no one receives a majority of all votes cast for vice-president.

54. (a) No person except a natural born citizen, or a citizen of the United States at the time of adoption of the Constitution, shall be elegible to the office of President; neither shall any person be elegible to that office who shall not have attained the age of thirty-five years and been fourteen years a citizen of the United States. (b) The same applies to the Vice-President.

55. "I do solemnly swear (or affirm) that I will faithfully execute the office of President of the United States, and will to the best of my ability, preserve, protect and defend the Constitution of the United States of America."

56. He is commanedr-in-chief of the army and navy; he has power to grant reprieves and pardons for offences against the United States, except in cases of impeachment; with the advice and consent of the Senate he has the power to make treaties, to appoint Ambassadors and Judges of the Supreme Court.

57. His most important duty is to see that the laws are faithfully executed.

58. (a) A reprieve is simply the suspending, for a time of the execution of a penalty. (b) A commutation changes a punishment to one less severe in nature. (c) If a person be granted a pardon, the penalty is entirely removed.

59. The judicial power of the United States shall be vested in one Supreme Court, and in such inferior courts as Congress may from time to time ordain and establish.

60. When the Supreme Court has original jurisdiction in cases, the cases commence there. When it has appellate jurisdiction, the case must begin in some inferior court, but may be appealed to the Supreme Court.

61. Treason against the United States shall consist only in levying war against them, or in adhereing to their enemies, givthem aid and comfort. No person shall be convicted of

treason unless on the testimony of two witnesses to the same overt act, or on confession in open court. Congress declares the punishment.

62. This Constitution, and the laws of the United States which shall be made in pursuance thereof, and all treaties, made or which shall be made, under the authority of the United States, shall be the supreme law of the land.

Orthography

QUESTIONS

1. What is a word? Distinguish between a simple and a compound word.
2. Define and give an example of a primitve word; a derivative word.
3. What is a word of one syllable called? Of two syllables? Of three? Of more than three?
4. Define: root, prefix, suffix, affix.
5. State a good method for analyzing words.
6. What is the meaning of the following prefixes: *ab, ambi, bene, circum, contra.* (Note: In all the questions that follow, in which a definition for a prefix, suffix or root word is required, the student should analyze and define a number of words in which the prefix, suffix or root is contained. Use the dictionary or a good text book for finding the words, then form a sensible definition, and to more thoroughly acquaint yourself with the use of the word, form a sentence in which it is contained. The dictionary will be found a great help in this respect.)
7. What is the meaning of the following suffixes: *able, acy, an, ary, ate?*
8. Define: *ann, art, aster, aud.*
9. What is an elementary sound? What is the method of representing elementary sounds called? How many elementary sounds in the English language?
10. Define: vocals or tonics; subvocals or subtonics; aspirates or atonics; cognate sounds. Give examples of each.
11. Define prefixes: *dis, extra, inter, non, per.*
12. Define suffixes: *ic, id, ity, ive, ment.*
13. Define roots: *clud-clus, cor-cord, corpus-corpor, cur.*
14. What is a letter? An alphabet? How many letters in the English alphabet? German? French? Spanish? Greek?

15. Classify letters as to form, style and size.

16. Define: *pre, re, semi, super, tri.*

17. Define: *ac, ics, ism, y.*

18. Define: *duc-duct, fac-fact, ferr, fest.*

19. (a) Distinguish between vowel and consonant sounds. (b) Define: diphthong; proper diphthong, improper diphthong, triphthong.

20. What are the voice consonants called? The breath consonants?

21. What are labials? Dentals? Palatals?

22. Define: *uni, anti, dia, en.*

23. Define: *foli, fort, fract-fraught, frater-fratr, chron, ge, graph, log.*

24. What is a spoken syllable? A written syllable?

25. Define syllabication. Name two purposes of syllabication.

26. What is the last syllable of a word called? The next to the last? The third from the last? The fourth from the last?

27. Define: *mono, para, peri, syn, tele.*

28. Define: *liber, liter, man, mater, pell-puls, pend-pens, ped. pon.*

29. Mention four uses of silent letters.

30. What is the meaning of the following roots; *tang, tempor, ten-tent, terr.*

31. Define: primary accent; secondary accent.

32. Mention at least twelve different kinds of information that the dictionary gives about words.

33. Define: *ad, ante, bi, con, de, ex, in, intro, ob, post.*

34. Define: *capt, ced-cess, cent, civ, curr-curs, dent, dict, doc-doct.*

35. In the following words mark *"a"*: late, delicate, care, can, arm, ark, what, call.

36. Mark the first *"e"* in these words: serene, create, eight, bend, there, fern.

37. What is the science, which deals with the treatment of elementary sounds, called?

38. What are the marks that indicate the various sounds called?

39. Define: *pro, retro, se, sub, trans, vice, a, auto, epi, micro.*

40. Define: *fin, firm, flex-flect, flu, grat, greg, ject, leg.*

41. Mark *"i"* in the following words: bind, bit, pique, whirl.

42. Mark *"o"* in the following words: cold, lord, dot, tomb, done.

43. Mark *"u"* in abuse, nude, bush, churn, sup.

44. What are redundant letters? Name them.

45. What language is the most difficult for foreigners? Why?

46. Define: *aceous, al, ance, ence, ent, fly, ile, ine, ion, ite.*

47. Define: *ment, mitt, norm, pater-patr, port, rupt, scrib-script, spec, spect.*

48. Mark *"y"* in the following words: hyphen, lyric, myrtle.

49. Define and give examples of synonyms, homonyms, paranyms, antonyms.

50. State the meaning of the following: *ory, ous, ulent, ure, y, ic, ise, ist, oid.*

51. Define: *tors, tract, ven-vent, vert-vers, meter, phon, polis, scop.*

52. Give several illustrations showing how the changing of accent brings about a change in the meaning of some words.

53. State the rule, in spelling, of dropping or retaining a silent *"e"* if it is the last letter of a word to which you would wish to add a suffix.

54. For the above rule give five illustrations in which the suffix begins with a vowel. Five in which the suffix begins with a consonant.

55. State the rule for changing *"y"* to *"i"* in words ending in *"y"* when you wish to add a suffix.

56. Give five illustrations of the above rule, in which the final *"y"* is preceeded by a consonant.

57. Five in which the final *"y"* is preceded by a vowel.

58. Why are many rules of spelling of doubtful value?

59. What is the best reference book to use for obtaining information about words?

60. Review all prefixes, suffixes and roots, studied. Give several illustrations for each. Define and use in a sentence, each illustration given.

Orthography

ANSWERS

1. A word is a sign of a conception or an idea. A single word is a simple word, while a compound word is formed by combining two or more simple words.

2. Any word that is not derived from another is a primitive word, while those derived from other words by adding something to them or by changing them, are called derivative words. Ex.—Wood, primitive; wooden, derivative.

3. Monosyllables; dissyllables; trisyllables; polysyllables.

4. The significant or primitive part of a word is called its root. One or more significant syllables joined to the first of a word is called a prefix. One or more significant syllables joined to the end of a word is called a suffix. Affix may be applied to either a prefix or a suffix.

5. Divide the word into its parts and give the meaning of its root, prefix and suffix. Then by combining these meanings, and by supplying additional words, make a sensible definition. To make sure the understanding is complete, use in a sentence.

6. *Ab,* from; *ambi,* around; *bene,* good; *circum,* around; *contra,* against.

7. *Able,* fit to be; *acy,* state of being; *an,* pertaining to; *ary,* one who; *ate,* having.

8. *Ann,* year; *art,* skill; *aster,* star; *aud,* hear.

9. Elementary sounds are the simplest sounds uttered by the organs of speech; Phonotopy; Forty-four.

10. Vocals or atonics are those elementary sounds that are made in a free and uninterrupted manner. Ex.—e, a. In making subvocals or subtonics, the organs of speech modify the tone; Ex.—*g, b,* The aspirates or atonics are breath sounds modified by the organs of speech; Ex.—*t, s.* Sounds uttered by the same organs of speech placed in similar positions are called cognate sounds; Ex.—*f-v, s-z.*

11. *Dis,* apart; *extra,* beyond; *inter* between; *non,* not; *per,* though.

12. *Ic,* pertaining to; *id,* quality of; *ity,* state of being; *ive,* that which; *ment,* act of or that which.

13. *Clud-clus,* shut; *cor-cord,* heart; *corpus-corpor,* body; *cur,* care.

14. A mark or character used as the representative of a sound, is called a letter. An arrangement, in their order, of the letters of a language is called an alphabet. English26; German 26; French 25; Spanish 27; Greek 24.

15. *Form,* script oor print; *style,* Italic, Roman, Old English, etc.; *size,* capital and small letter.

16. *Pre,* before; *re,* back; *semi,* half; *super,* above; *tri,* three.

17. *Ac,* pertaining to; *ics,* science of; *ism,* state of being; *y,* state of being.

18. *Duc-duct,* to lead; *fac-fact,* to do or to make; *ferr,* to carry; *fest,* feast.

19. (a) A vowel sound is a sound made by the free voice, uninterrupted by the organs of speech. The result of an interrupted sound is a consonant. There is no well defined division between vowels and consonants although "*a, e, i, o, u,* and sometimes *w* and *y* are usually given as vowels. (b) A diphthong is a union of two vowels in one syllable. It is proper if both vowels are sounded and improper if only one is sounded. A triphthong is produced by uniting three vowel sounds in one syllable.

20. Subvocals; aspirates.

21. Labials are lip sounds, dentals tooth sounds, and palatals are made between the tongue and palate.

22. *Uni,* one; *anti,* against; *dia,* through; *en,* on.

23. *Foli,* leaf; *fort,* strong; *fract-fraught,* break; *frater-fratr, brother; chron,* time; *ge,* earth; *graph,* write; *log,* speech.

24. A spoken syllable is an elementary sound or a combination of elementary sounds uttered together by a single effort of

the voice. A written syllable is a part of a word separated from the rest of the word and capable of being pronounced by a single effort of the voice.

25. (a) The process of dividing words into syllables. (b) To show the derivation of words and to indicate the correct pronunciation of words.

26. Ultimate; penultimate; antepenultimate, preantepenultimate.

27. *Mono,* one or alone; *para,* aside; *peri,* around; *syn,* with; *tele,* far.

28. *Liber,* free; *liter,* letter; *man,* hand; *pens,* hang; *ped,* foot; *pon,* place or put.

29. To indicate a modification of other sounds in the same syllable; to indicate how a word should be pronounced; to indicate the meaning of words; to indicate the derivation of words.

30. *Tang,* touch; *tempor,* time; *ten-tent,* hold; *terr,* earth.

31. In pronouncing a word, the syllable on which the most stress is placed is said to have the primary accent. The secondary is the one on which a weaker accent is placed.

32. Spelling; pronunciation; definition; synonyms; derivation; history; syllabication; a means of distinguishing compound words; parts of speech; the principal parts of verbs; the comparison of adjectives; significant quotations.

33. *Ad,* to; *ante,* before; *bi,* two; *con,* with; *de,* down; *ex,* out; *in,* not; *into,* within; *ob,* against; *post,* after.

34. *Capt,* the head; *ced-cess,* to go; *cent,* hundred; *civ,* citizen; *curr-curs,* run; *dent,* tooth; *dict,* speak; *doc-doct,* teach.

35. Lāte, delicāte, câre, căn, ärm, ȧsk, whạt, cạll.

36. Sērene, crēate, e̊ight, bĕnd, thĕre, fẽrn.

37. Phonology.

38. Diacritical marks.

39. *pro,* for; *retro,* backward; *se,* aside; *sub,* under; *trans,* over; *vice,* instead of; *a,* without; *auto,* self; *epi,* upon; *micro,* small.

40. *Fin,* end; *firm,* strong; *fle-flect,* bend; *flu,* flow; *grat,* pleasing; *greg,* herd or flock; *ject,* cast; *leg,* law.

41. Bīnd, bĭt, pïque, whĭrl.

42. Cōld, lôrd, dŏt, tọmb, wọlf, dŏne.

43. Abūse, nụde, bụsh, chûrn, sŭp.

44. Redundant letters are those which have no sounds of their own; *c, j, g, x.*

45. The English language, because of its inconsistency and its not being guided by any set rules, is said to be the most difficult for foreigners.

46. *Aceous,* having the quality of; *al,* pertaining to; *ance,* state of being; *ence,* state of being; *ent,* that which; *fy,* to make; *ile,* relating to; *ine,* belonging to; *ion,* act of; *ite,* one who is.

47. *Ment,* mind; *mitt,* send; *norm,* rule; *pater-patr,* father; *port,* carry; *rupt,* break; *scrib-script,* write; *spec- spect,* look.

48. Hȳphen, lȳric, mȳrtle.

49. (a) Words which mean nearly the same, but differ in spelling and etymology are called synonyms. Ex.—*opening-aperture; often-frequent; tame-gentle; great-large.* (b) words which are pronounced alike but which differ in spelling and meaning are called homonyms. Ex.—*might-mite; lie-lye; piece-peace; fir-fur; weight-wait.* (c) Homonyms spelled differently and having different meanings are called paronyms. Ex.—*deer-dear; except-accept; patience-patients.* (d) Words having opposite meanings are called antonyms: *day-night; in-out; hate-love.*

50. *Ory,* place, where; *ous,* having; *ulent,* full of; *ure,* sate or act of; *y,* state of being; *ic,* pertaining to; *ise,* to make; *ist,* one who; *oid,* having the form of.

51. *Tors,* twist; *tract,* draw; *vent,* come; *vert,* turn; *meter,* measure; *phon,* sound; *polis,* city; *scop,* view.

52. Con′ duct-conduct′; ob′ ject-object′; pres′ ent-present′; rec′ ord-record′.

53. If the suffix begins with a vowel, the "e" is omitted, but if the suffix begins with a consonant, it should not be omitted. however, there are about forty exceptions to this rule, which should be learned, then the application of the rule will be of great value in spelling words of more than one syllable, to which it applies.

54. (a) Blue, bluish; dine, din-ing; converse, convers-ed; cure, cur-able; compare, compr-able. (b) hate, hate-ful; idle, idle-ness; serene, serene-ly; fire, fire-man; care, care-ful.

55. If there is a consonant preceding the final "y" and the suffix does not begin with "i", change the final "y" to "i".

56. Supply, supplied; city, Cities; copy, copied; study, studied; hurry, hurried.

57. Decay-ed, joy-ful, display-ed, convey-ed, destroy-ed.

58. Because of so many exceptions, however the two mentioned above, if thoroughly learned, and their exceptions memorized, are of value.

59. A good dictionary.

60. In conclusion, the great value which can be obtained from the use of a good dictionary, in the study of words, is again called to your attention.

Stock Raising

QUESTIONS

1. From what did the horse originate?
2. Into how many general classes are horses divided? Name them?
3. What are some of the well-known breeds included under each class?
4. Name some common characteristic of each class?
5. Which of the draft animals is best adapted to the needs of the U. S. farming regions, and why?
6. What is the distinguishing feature of the Clydesdale?
7. (a) What is the size of the horse's stomach compared with the cow's? (b) Is this an advantage?
8. When should the horse receive his heaviest feed?
9. Should the horse be given water before or after feeding?
10. In the grooming of a horse, what parts of his body should have special attention?
11. Name a special care which should be taken of horses in the winter time.
12. Which is the better feed for the farm horse, corn or oats? Why?
13. What peculiarity of the internal organs of the horse distinguishes him from all other quadrupeds?
14. What per cent of the horses in the U. S. are registered?
15. What is meant by *balanced* ration?
16. Which feeds contain proteins and which carbohydrates?
17. Is the hair of the horse composed mostly of protein or carbohydrates?
18. Has the horse a good memory?
19. What are the different classes to which cattle belong?

20. Name some of the most familiar breeds under each class.
21. Of the *dairy breeds,* which kind has the greatest percentage of butter fat contained in the milk?
22. What is the original home of the Jersey cattle?
23. What is meant by a *pedigree?*
24. What is a pedigreed animal called?
25. (a) What is meant by a grade animal? (b) A cross-bred?
26. Is a pedigreed cow always worth keeping?
27. What is the comparative value of beefsteak to whole milk?
28. What kind or shape pail should be used in milking?
29. How should milk be taken care of after milking?
30. Describe what is meant by *Pasteurizing* milk?
31. How should milk vessels be cleaned?
32. Is there a way of destroying the bad odors in milk, such as those caused by allowing cows to eat wild onions, wormweed, etc.?
33. How may we know a profitable cow from an unprofitable one?
34. What disease of cattle should we especially guard against? Why?
35. How is the disease known as "Black Leg" transmitted?
36. Why are sheep used by many farmers to kill noxious weeds?
37. Mention several breeds of sheep.
38. In what country is sheep raising carried on most extensively?
39. What climate is best suited to sheep raising?
40. Which sheep are most noted for their wool?
41. How long have sheep been known to the civilized world?
42. What are the great hog producing states? Why?

43. From what did our present breed of hogs originate?

44. Where did the single hoof "Mule Footed Hog" originate?

45. Is a "mule footed" hog susceptible to cholera?

46. Name some familiar breeds of hogs and tell where each was first bred and developed.

47. Which breeds seem best adapted to the needs of the average farmer?

48. Can you assign any reason?

49. What distinguishing marks have the Berkshire? Poland-China? Chester-White? Duroc-Jersey?

50. What sort of pasture is best suited for the hog?

51. Do hogs fatten better in a muddy pen than in a dry one?

52. What diseases are most prevalent among hogs and how can they be combated?

Stock Raising

ANSWERS

1. We are told that the horse is a native of North America. From *fossil* remains found, it appears that the horse was originally an animal something like the size of an ordinary dog, having five toes on its feet. Through evolution, it came to use only the middle toe for walking, which caused the hoof and bones of this toe to become greatly strengthened and enlarged. The others gradually diminished until today they are no longer seen except in deformity cases where two hoofs are sometimes seen. The horse is supposed to have migrated from North America to Asia, via Bering Strait which was probably at one time an isthmus.

2. We usually divide them into three classes: viz, the draft, coach and driving.

3. 3. The best known breeds of *draft* horses are; The Perchon, Clydesdale, Belgian and Shire. Under the head of *coach,* come the French and German Coach, and English Hackney. The *drivers* include, besides the English Thoroughbred, the American Trotters and Saddlers.

4. The *draft* animals are the heaviest in weight of the three classes, having a more arching neck, shorter legs, flatter feet and wider breast. The *driving* animals have higher, thinner withers than the others. Longer, neater legs, more bend at what is usually known as their "ankle" joint and are more spirited. The *coach* animals are a medium between the above named animals.

5. It appears from the number, that the Percheon is the favorite among agriculturalists. Reasons given are, that it is of nicer appearance, stronger, more agile and intelligent, and of a better and kinder disposition than other breeds of this class.

6. The long, thick growth of hair on the fetlock distinguishes the Clydesdale as well as the Shires (which are almost the same thing) from all others of this class.

7. (a) The horse has a much smaller stomach in comparison than the cow. (b) It probably is, if the stomach of the horse were larger, he would frequently take so much food at one time as to make him sluggish or clumsy and consequently lessen his efficiency.

8. It is best, if working the horse, to feed approximately fifty per cent of the day's ration at night. This gives the limited stomach capacity an advantage in digestion.

9. The proper time is before eating, unless the animal is warm. If the water is warm, however, it doesn't matter. The idea is to avoid quick changes of temperature. If the feed given the horse is of a very dry nature, it is well to give him a small amount of water after eating.

10. Probably the most neglected part of the horse (the feet and legs) should have the most attention. Always curry and brush well the legs and joints of the horse, especially if he has been used in the cold, and mud and water have accumulated on them. In such cases, it is well after currying, to wipe the legs dry with a cloth or large sponge. Stiffened joints are frequently traceable to failure to take proper care of the animal's legs and joints. The hoof is also sadly neglected. Animals should have a dry footing at night and the hoof should be cleaned thoroughly each day and a coating of Neatsfoot, or some similar oil applied to the outside once each week. Shoes should be frequently reset and, unless necessary, should not be used at all.

11. After exercising the horse on a cold day; he should, upon stopping, be immediately covered with a warm blanket or put into a comfortable stable. Failure to do so may result in Pneumonia, Rheumatism and many other ills.

12. Oats. The corn is rich in carbohydrates and therefore produces fat and heat. Oats contain mostly protein, which supplies energy and muscle and very little heat and fat. Corn is fine for winter feeding.

13. The horse has no *gall bladder.*

14. Less than one and one-half per cent.

15. By a *balanced* ration we mean one which contains about one-sixth as much pretein as carbohydrates. As a general feed for all horses, this percentage will be found good, but if we wish to fatten an animal we must make the proportion of protein smaller (called the wide ration) but for muscle and energy building as with the horse it is probably best to make the proportion of protein greater; (narrow ration) probably one-fourth.

16. Nearly all contain both. The ones containing starches and sugars in greater proportions are called carbohydrates. Corn barley, rye, wheat, straw, hay, fodder, silage, etc., belong to this class. You can test food for sugar by tasting it. For starch, merely boil the plants or seeds to be tested. Then soak a thin cloth in the water in which they were boiled. If it is stiff when dried, the product contains starch. The proteins are contained in larger proportions in all leguminous plants and seeds. Peas, beans, clover and alfalfa, hay, oats, wheat bran. These plants and seeds are rich in proteins and should be fed with discretion. To test for protein, scorch the heart of the seed and if the odor reminds you of *burning feathers,* protein is present.

17. Protein. Scorch and see for yourself.

18. Yes. It is claimed that he never forgets an exciting incident in his life, such as a runaway, etc., therefore great care should be exercised in handling him especially when training.

19. They are usually classed as dairy, beef and general purpose breeds.

20. Under the *dairy* cattle we find the Jersey, Holstein-Friesian, and Ayrshire. The *beef* breeds include such well known names as the Shorthorn, Hereford, Polled Durham, Polled Hereford, Aberdeen-Angus and Scotch Galloways. Under the *general purpose* comes the English Red Polled, and Devon, also the milking strain of the Shorthorn.

21. By numerous tests the Jersey has ranked first, with the Guerensy and English Devon a close second and third. The Holstein-Friesian ranks first in quantity of milk given and seem to be the first choice of most dairymen.

22. The Jersey Island just off the British Isles and containing about 45 square miles is the home of the Jersey.

23. By a *pedigree* we mean a record of an animal showing its ancestors as far back as the records have been kept.

24. A *thoroughbred* or *pure-bred.*

25. By grade stock we mean a *cross* between a pure-bred and common stock. A *cross* between two pure-breds of different breeds is called a cross-bred.

26. No. Provided that the individual record does not show a profitable animal, it should not be retained.

27. One gallon of milk is equal in food value to three pounds of steak.

28. It is advisable to use one having a smaller top than bottom. It not only prevents so much dirt getting into the milk, but lessens the chances of spilling in case of tipping the pail.

29. After milking, it is a good plan to immediately strain and seal the milk in scalded vessels which should be kept in a cool place.

30. Milk to be *Pasteurized* is first heated to a temperature of about 160 degrees F., and allowed to retain this heat for about 20 minutes after which it is run through a cooling coil, where the temperature is lowered to from 40 to 65 degrees F. It is then immediately sealed and put in a cool place. This is practiced mostly in cities and adds nothing to the milk. In fact it is better without it providing it is from healthy cows and properly handled.

31. It is best to scald them either with steam or boiling water.

32. Yes. It is simple. Merely *aerate* it by pouring it from one pail to another in a small stream, care being taken to be in the pure air. It is best to hold the pail you are pouring from considerably higher than the one emptied into. After repouring the milk several times in this manner, scarcely any odor can be detected, even in very foul smelling milk.

33. As a general rule a cow should average 1½ gallons of strained milk testing better than 3 per cent of butter fat.

This means average for the *year*. Those which fall under can well be disposed of.

34. *Tuberculosis.* It is well to have a specimen of the milk from each cow analyzed so as to be sure they are free from this dreaded disease. While the germs are slightly different in man and cattle it is readily transferrable from one to the other. Children are especially likely to contract tuberculosis from drinking milk infested with *tubercular bacilli.*

35. The germs are transmitted through infected soils over which the animals walk. All animals dying from this disease should be burned.

36. The sheep, in its wild and primitive state frequented the mountain ranges mostly. As this rough country gave it a widely diversified range, and correspondingly varied shrubbery and grasses, consequently in its present state it longs for the different varieties of vegetation, such as the tough marsh grass of the lowland, the tender juicy morsels of the sheltered upland, and the bitter invigorating twigs of the craigs. But man has changed the scope of its range. So, in order to satisfy the longings of its primitive nature, it resorts to any and all kinds of weeds and shrubs, which may tend to appease the early acquired appetite of its mountain home.

37. Among the different breeds of sheep in the U. S., we find the Merino (with its different types such as the American and Delaine Merino and Rambouillet American) leading in numbers. Other well known breeds are the Shropshire commonly called "black face", the Cotswold, the Southdown, Hampshire and Oxford Down, the Horned Dorset and Cheviot.

38. Australia. Over 100,000,000 are raised each year.

39. The sheep ordinarily thrive best in a high, dry climate. The cool damp climates of Scotland and England seem to be well adapted to the growing of heavy fleeces. But as a general rule the sheep to continue in health must be in a moderately dry climate. It is a well known fact that a sheep may—with the exception of the dew from the grass—

go without water practically all summer. Dust is a thing which should be avoided in the raising of sheep and is one of the most common sources of disease among them.

40. The finest quality of wool as well as the greatest quantity is produced by the Merino.

41. There is no record, but we have record of over 5,000 years of domestication.

42. Nebraska, Iowa, and Illinois. The reason is on account of the large amount of corn raised in these states.

43. According to most writers, the hog originated from the *wild boar* of Asia. The hog, or swine, however, has been domesticated for probably 5,000 years, being often spoken of in the Bible.

44. The "Mule foot" hog is merely a *freak* of our ordinary hog, bred and perfected to a place where they resemble a different species. We sometimes see a malformation of a calf resulting in two tails, etc. No doubt, a *two-tailed variety* of cattle might be the result of the off-springs, were we to keep and breed such animals.

45. No. They are no more immune than any other breed.

46. The Chester-White in Pennsylvania; Poland-China in Ohio; Duroc-Jersey in New York; Victoria in Indiana and the Berkshire in England.

47. Ordinarily the Poland-China and Chester-White.

48. The above breeds are the *lard types* and are best raised on corn which is rich in fats and oils. For *bacon types*, we would naturally settle on some breed like the English Yorkshire which is a long lean type and requires little corn.

49. (a) Black with white spots and erect ears. (b) The same color but dropping ears. (c) White with dropping ears. (d) Red sandy, or yellowish brown with dropping ears. The Berkshire appears to have a wilder nature than any of the other named breeds.

50. *Alfalfa.*

51. No. The practice of keeping hogs in foul, muddy pens is very likely to cause disease.

52. Cholera and tuberculosis seem to infect hogs more than other diseases. The cholera can be escaped by having the animals vaccinated. To prevent the spread of tuberculosis, the source of their food should be guarded. It is usually contracted by the drinking of infected milk or eating of polluted garbage. Some hog raisers cook all swill fed to their hogs and report that it pays. Cleanliness is *very* important in combatting any germ disease. Hog raising is no exception.

Agriculture

QUESTIONS

1. On what should the size of a farm usually depend?
2. Does the location of the fields affect the value of the farm?
3. Why are odd-shaped fields objectionable?
4. Why are farms with too much steep hill-land objectionable?
5. Mention at least ten things that sould be borne in mind when buying or selecting a farm.
6. Of what is a good agricultural soil composed?
7. How are soils formed?
8. Briefly analyzing soils, what are thefinest particles called? The next larger? The largest particles?
9. What is the origin of sandy soils? Of clay soils?
10. What is humus?
11. What is loam?
12. What causes such a great variety of soils?
13. What would you call a soil composed of three parts clay, two parts sand and one part humus?
14. What would you call a soil composed of two parts clay, three parts sand and one part humus?
15. For general farming purposes, what do you consider the best kind of soil? Why?
16. Abut what part of the volume of soil is air space?
17. What determines the amount of water that any soil will hold?
18. What is the source of food supply for a small plant until it becomes large enough to take its nourishment from the soil?
19. Why then, should care be used in selecting seed?

20. What are the sources of plant foods? Which ones come from the air?

21. Mention several plant foods found in the soil.

22. What three plant foods are most likely to become exhausted in any soil?

23. In reference to the plant, how may the lack of the three elements most liable to exhaustion be noticed?

24. What is probably the best and easiest way to restore fertility to the soil? What is meant by restoring fertility to the soil?

25. Is there any danger of having too much of any of the above named elements in the soil?

26. Why is water the most important plant food?

27. What are some harmful effects of too much water in the soil?

28. Why is tiling, in most cases, a better system of drainage than the open ditch?

29. Do all plants in their growth, use the same kinds of plant foods? Why is it, then, a good plan to change the kinds of crops, grown on a field?

30. What should be kept in mind when forming a plan of crop rotation?

31. What five things are necessary for plant growth?

32. What are legumes?

33. What are some examples of leguminous plants?

34. In what two ways are commercial fertilizers of value in restoring fertility to the soil?

35. In addition to those that have already been mentioned, what is another method of restoring fertility to the soil?

36. Summarize all the methods of restoring fertility to the soil that have been mentioned.

37. What two forces control all plant growth?

38. Briefly explain what is meant by heredity in plants.

39. Briefly explain what is meant (in plant life) by environment.

40. What is meant, in the study of plants, by variation? By selection?

41. On what two things does plant breeding depend?

42. What is the object of plant breeding?

43. Briefly tell of its origin and development.

44. What are fibre plants? Mention several.

45. What are cereals? Name several. What is their value?

46. What is the most important grass grown for hay purposes in the U. S.?

47. Which one is second in importance?

48. What is the most important pasture grass grown in the United States?

49. What is a cutting?

50. What is a graft?

51. What is horticulture?

52. What things cause most of the diseases of plants?

53. What two classes of plant organisms cause diseases of plants?

54. What are bacteria?

55. What are some diseases caused by bacteria.

56. What are fungi?

57. What are some diseases of plants caused by fungi?

58. Are all insects harmful?

59. Mention several insects that are harmful to farm crops.

60. What are some methods of destroying insects and plant dieases?

Agriculture

ANSWERS

1. On the type of farming.

2. Yes. The farther the fields are from the barn, the more time and energy is required in passing to and from them.

3. More time and labor are required to till odd-shaped or narrow fields. Fields of this kind also require more fence.

4. On account of the difficulties encountered in using harvesters and labor-saving machinery, also in some sections on account of erosion or land washing.

5. Size, shape, condition of the surface—level or hilly—condition of the soil as to fertility, water, drainage, roads, nearness to market, schools, churches, neighbors, climatic conditions, improvements, trees, including orchards.

6. At least five things go to make up a good agricultural soil. First, of course, the rock particles which are usually very small in size; air and water, the amount of which depends on climatic conditions and soil texture; organic matter, usually in some state of decay; and small living organisms, which serve a great and useful purpose in restoring and retaining the fertility of the soil.

7. In the study of Geology we find that centuries ago the earth was a solid mass of rock. Volcanic eruptions caused breaks in this huge mass and in these breaks, decay soon set in. Water helped to dissolve and break away the decaying rock, and soil formation began. Other agencies have assisted greatly in forming soil from rock, such as; winds, frosts, and later animals and the roots of plants. The decay of all organic matter is continually forming soil.

8. The finest particles of soil are commonly referred to as clay, and the next larger, silt. The largest particles, we call sand or gravel.

9. Concluding that all soil must have begun its formation from rock, the kind or soil would naturally depend upon the kind of rock from which it was formed. Clay soils must

have come from limestone and sandy soils from sandstone.

10. The constant decay of all organic matter, that is plant and animal life, forms humus in the soil.

11. A soil composed of a mixture of sand, clay and humus is called loam.

12. To determine the kind of soil, we must find the relative amounts of large and small particles it contains. Soils differ greatly in this proportion, hence, we have a variety of soils.

13. When there is more clay than sand in loam, it is called clay loam.

14. When there is more sand than clay, it is called sandy loam.

15. Loamy soils are the best because they contain all the foods needed by growing plants. Loamy soils are also easily cultivated.

16. About one-half, however, this proportion differs in different soils. There is more air space in clay soils than in sand, because the small particles in clay do not pack as closely as in sand but the pores are larger in the sandy soils allowing the air to move more freely than in clayey soils.

17. The size of the soil particles determines the amount of water which any soil will hold. The smaller the particles, the greater the capacity of the soil for holding water.

18. The food matter, which is stored in the seed, is used by the young plant in its growth until it becomes strong enough to take food directly from the soil.

19. From this standpoint, great care should be used in selecting seed, using only that which is healthy and large and containing a plentiful supply of food matter on which the small plant must live for a time.

20. Soil, water, and air are the sources from which plants obtain their food supply. The air furnishes ammonia and carbon-dioxide, the remainder comes from the soil and water.

21. Magnesia, potash, lime, phosphoric, sulphuric and hydrochloric acids, silica, soda and iron-oxide.

22. Nitrogen, potash and phosphoric acid.

23. Upon the nitrogen in the soil, depends the growth of the stock and foliage of the plant, therefore, unless there is a proper amount of nitrogen present, the plant will be undersized and the stalk small and weakly. Potash, being an essential element in the production of fruits, potatoes and all root crops, a lack of it will cause undeveloped, undersized, imperfect fruits and roots. A lack of phosphoric acid results in imperfect, shrunken and undeveloped seeds in grain crops.

24. (a) Any fertilizer that contains the elements, in their proper proportion, which have become exhausted in the soil, if applied properly and in sufficient quantities, will eventually restore the exhausted elements. Barnyard manure contains nitrogen, potash and phosphoric acid in about the right proportion and being so easy of application, it is considered an almost perfect fertilizer. (b) Restoring fertility to the soil, is simply the restoring of the elements which have become exhausted through unwise care.

25. Yes, plants will not grow or they may be killed by too much of any one or more elements in the soil. For instance, salt is a plant food but if you cover the ground with salt and attempt to grow plants thereon, you wi'l have little success. Ashes contain an important plant food, but if grass or other plants be covered with ashes they will soon die.

26. Plants use water in two ways, first as a plant food and in the second place, many of the elements cannot be taken up by the roots of the plants until they have been made into liquid form. Water is the agency which dissolves the solid foods, changing them into a solution that can be readily taken up by the roots of the plant.

27. Too much water in the soil prevents the plant roots from penetrating deeply. It also delays farm work and makes the soil cold and usually weedy; but the most harmful effect is the exclusion of air from the soil and air is essential for plant growth.

28. Although just as effective results might be obtained from open ditches, yet the intereference with cultivation and the cutting up of the land, makes tiling the better system of drainage if it can be used.

29. No, all plants do not use the same elements in their growth. Some plants use an excess of nitrogen and other plants an excess of other plant foods. Therefore, it is a good plan not to grow the same kind of crop on a field year after year because in so doing the soil will be robbed of the foods which are required to produce that particular crop.

30. By determining the plant foods that are used by the different kinds of crops. Crops using the same kinds of plant food should not follow each other and it is even better if the following crop requires different cultivation and soil treatment. Conditions, of course, govern the plan of rotation, differing in different sections.

31. Plant food, moisture, air, heat, and light.

32. Legumes are a class of plants that have power to take nitrogen from the air in the soil. Living in the soil are minute germs or parasitic bacteria which fasten themselves to the roots of the leguminous plants and feeding upon the free nitrogen in the air of the soil, change it into compounds that the plants can make use of. On the roots of clover, these "homes" of the bacteria can be seen in the form of Nodules, about the size of small shot. They are not found on any other farm crops except legumes and no other class of plants is able to take nitrogen from the air in this way.

33. Clover, alfalfa, peanuts, vetch, beans and peas are examples of legumes.

34. First, good fertilizers contain elements which the plants use as food. Second, the chemicals in the fertilizers help to break up the other plant foods into a form more easily gotten at by the roots of the plant. The second is probably the greater benefit derived from the use of commercial fertilizers.

35. Sometimes crops are grown for the sole purpose of plowing under as green manure. Humus is added to the soil in

this way, however it should be remembered that green crops are about seventy-five per cent water. Clover, cowpeas and rye are good crops to grow for this purpose. Yet, usually if these crops are worth harvesting, it is better to feed them to stock and return the manure to the soil. Conditions, of course, govern this practice.

36. The use of barnyard manure and commercial fertilizers, the growing of leguminous crops on the soil, and plowing under growing crops as green manure.

37. Heredity and environment.

38. If a seed is planted in the ground, the plant that springs therefrom will have the same characteristics as the plant from which the seed was taken. Wheat and rye seed resemble each other, but if placed in identically the same kind of soil under proper growing conditions, one will develop into and produce wheat, while the other will produce rye. Cauliflower and cabbage seed can hardly be told apart, but the one always produces a cauliflower, and the other a cabbage. The cabbage seed never forgets to grow into a cabbage instead of a cauliflower. From that, the conclusion is formed that the destiny of the seed embryo is fixed before it begins its growth into a plant.

39. All outside conditions which control the growth of plants such as, heat, air, light, moisture, cultivation, and food constitute the environment. Because of better environment, a field of corn may produce twice as much as a field just across the fence even though they were planted from the same sack of seed.

40. (a) No two plants are exactly alike, any more than any two persons can be exactly alike. There is a slight and sometimes a marked difference in form, size, color, weight or some other characteristic. This difference is a variation. (b) In plant life there is also, naturally, an intense struggle for existence and the variations which are strongest and best fitted to live under the particular conditions, are the ones which win in the struggle.

41. Plant breeding depends on variation and selection.

42. To improve the variety of plant life.

43. In China, agriculture was carried on at least 4500 years ago. No doubt, these people practiced either more or less unconsciously, the art of plant breeding by selecting the best seed for planting purposes. In this general way, much attention was paid to the perpetuation of improved varieties until the beginning of the nineteenth century, when many investigations were made as to the methods of selcting and propogating wheat. About the middle of the century, attempts were made to put plant breeding on a scientific basis and since then great achievement has been attained in this important branch of agriculture.

44. Plants from which cordage is made are referred to as fiber plants. Cotton is the most important one, but hemp, flax and jute also are grown for their fiber. The leaf and stem of the banana and the leaf of the pineapple produce valuable fiber.

45. The members of the grass family that produce grain are called cereals. Wheat, rye, corn, barley and rice are examples, and as agricultural plants, they are the most important ones on the earth.

46. Timothy is the most important.

47. Redtop ranks second in importance.

48. Kentucky blue-grass.

49. If a part of a plant is cut or broken off and placed in the ground, under proper conditions, it may grow; the part is called a cutting.

50. If a cutting is inserted into another plant in such a manner that it may grow, it is called a graft.

51. Horticulture refers to the cultivation of gardens and orchards.

52. Insects, plant organisms and flowering plants.

53. Chiefly bacteria and fungi.

54. Bacteria are the smallest and simplest of plants. They exist everywhere, in water and milk, in the human body, in

the air—in fact, everywhere on the earth. The greater number are beneficial, but some produce disease in plants and animals. They consist of single cells and multiply very rapidly, often reproducing in thirty or forty minutes.

55. Cucumber wilt, black rot, soft rot, pear blight.

56. A group of plants of low organization, which contain no coloring matter and which reproduce by means of spores.

57. Apple scab, potato scab, oat smut, wheat smut, brown rot of stone fruits, corn smut.

58. Many kinds of insects are useful. Bees are a striking example, they carry pollen for certain crops and serve also in making honey. But there are kinds of insects that are very destructive to farm crops.

59. Chinch bug, grasshopper, weevil, potato bug, San Jose scale, coddling moth, cabbage worm.

60. By spraying, by planting a "trap" crop, by burning weed fields and fence rows where insects have deposited their eggs, and by cutting away the diseased part. Prevention is often brought about by soil cultivation and seed selection and preparation.

General Science

QUESTIONS

1. What is matter?
2. In what three forms does matter exist?
3. Define Atom, Molecule, Gravity, Gravitation, Energy.
4. What is the law of conservation of Matter? Of energy?
5. What is heat? Thermometer? Temperature? Calorie? Specific heat?
6. What are the sources of heat?
7. What are the effects of heat?
8. Why should not one wipe the perspiration from the body on a hot day?
9. Why do we add salt to ice in freezing ice cream?
10. What is the principle of the fireless cooker?
11. Name the functions of life?
12. (a) Name three nutrients. (b) Two inorganic foods.
13. Why should food be cooked? z
14. We are told that the nutritive ratio for an adult is 1 to 6; for a child, 1 to 4. What does this mean?
15. What is the composition of water?
16. (a) What are the sources of water? (b) How is water distributed? (c) What is a cloudburst?
17. Why should water be purified before using?
18. Compare boiling, filtration, and distillation as means of purifying water.
19. Is air a chemical compound?
20. Why will a plain suction pump not raise water more than 30 feet?

21. What are the uses of barometers?

22. What is meant by humidity?

23. Why does a person's nose bleed when climbing a high mountain?

24. What simple experiment will prove that molecules of gas are small and that they move at a rapid rate?

25. What is Boyle's Law?

26. (a) What is potential energy? (b) Kinetic energy? (c) Force? (d) Work? (e) Machine?

27. (a) Name the six simple machines. (b) Which two are basic?

28. What is meant by mechanical advantage?

29. Does friction increase or decrease the efficiency of a machine?

30. What form of simple machine is: (a) Nutcracker? (b) Copying press? (c) Block and tackle? (d) Capstan?

31. Why do modern road-builders cut through hills and fill in low places?

32. What is the history of lodestone?

33. Why does a magnet point north?

34. What practical benefit do we derive from the fact that the earth is a magnet?

35. What is the principle of the telephone?

36. Why is it less dangerous to stand under a tree in the forest than under a lone tree during a thunder storm?

37. Are lightning rods good devices for preventing destruction?

38. Why do persons in a moving picture show seem to be moving?

39. If a tree should fall in the forest, where there is no ear to hear it, would it produce sound?

40. Why can women sing higher notes than men?

41. How do bad colds affect hearing?

42. Name the classes of animals.

43. Why is the hookworm disease restricted to the south?

44. How is man different from other animals?

45. What forms of nature offer the most resistance to man in overcoming his enemies?

46. If a bullet be fired horizontally from a high powered rifle at the same instant that one is dropped from its muzzle, which will strike the ground first?

47. What distance will a 4 pound ball drop in 4 seconds if allowed to fall freely?

48. How much power must be exerted to move 624 pounds by a block and tackle, composed of three movable and three immovable pulleys?

49. Iron melts at 1520 degrees C. What degree would a Fahrenheit thermometer register?

50. Two boys weighing 60 and 80 pounds respectively have a teeter-totter 10½ feet long. How far from the point of support must each be to exactly balance?

General Science

ANSWERS

1. Matter is anything that occupies space and has weight or mass.

2. Solid, liquid and gas.

3. Atoms are the smallest divisions of matter that can enter into combination. *Molecules* are the smallest combinations into which a body may be separated without destroying the substance as such. *Gravity* is the force which holds things on the surface of the earth or draws them toward its center. *Grvitation* is the mutual attraction between bodies of matter. (*Gravity* is a form of *gravitation* that refers to the earth alone. The force exerted by the sun and other heavenly bodies upon each other and the earth is *gravitation*). *Energy* is the power to do work. .. ....

4. The *law of Conservation of Matter* is that Matter cannot be destroyed or created, but can be changed. The *law of Conservation of Energy* is that energy cannot be destroyed or created, but can be changed in form.

5. *Heat* is a form of molecular energy. It may be produced by other forms of energy and may also be changed into other forms. The *thermometer* is an instrument used to determine the temperature of a body. *Temperature* refers to the degree to which a body is heated. (This does not necessarily mean that two bodies having the same degree of temperature, have the same amount of heat. In fact, they do not, if of different size or of different material). *Calorie* is the name given to the unit of heat. *Specific heat* is the amount of heat necessary to change the temperature of one gram of water 10 degrees C. (The specific heat of water is 1, of mercury, .033, of alcohol, .62, and of iron, .113).

6. The sources of heat are: the sun; the interior of the earth; mechanical processes, such as friction and compression; chemical action (burning wood) and heat caused by the passage of an electrical current.

7. Heat either causes a change in the volume of a substance or it changes its physical condition. Heat causes substances to expand and cooling causes them to contract. (This is not true as regards water, which is at its greatest density at 4 degrees C., and will expand if the temperature be brought up or down from this point). Heat causes some substances to change form—melting beeswax.

8. Body evaporation is caused by heat. If we do not remove perspiration the body becomes cooled by loss of the heat necessary to cause evaporation.

9. Salt causes ice to melt. It requires heat to melt ice and dissolve salt. The cream, then, must lose heat in the process and gradually becomes frozen.

10. A fireless cooker is built by placing a vessel within a vessel, with a space between containing air, sawdust or cork shavings, so that air occupies a great deal of the space. Air is a gas and, consequently, a poor conductor of heat. Therefore, when food, heated to a high temperature, is placed within and the door shut, the heat is held within and will cook the food.

11. The life functions are: taking of food, breathing, excretion, growth and reproduction.

12. (a) The three nutrients are: Proteins, fats and carbohydrates. (b) Two inorganic foods are water and salt.

13. Food should be cooked: to kill harmful parasites, as, in meat; to loosen and soften fibers, so they may be easily digested. Boiling vegetables dissolves nutrients and makes them accessible to the digestive organs.

14. (a) It means one part of protein to six parts of fats and carbohydrates. (b) It means one part of protein to four parts of fats and carbohydrates.

15. Water is composed of two parts hydrogen and one part oxygen. H_2O.

16. (a) The sun, the great energy producer for the earth, evaporates great quantities of water from the land, the rivers, the lakes and the ocean. (b) This water is dis-

tributed by winds. (c) Warm winds carry more moisture than cold ones. Therefore, when air, heavily laden with moisture, comes suddenly in contact with cold air, the moisture is rapidly condensed, and falls in what is known as a cloudburst. This is especially noticeable in equatorial regions, where the warm air rises rapidly. It also occurs when a warm south wind meets a cold north wind.

17. Water should be purified before being used for drinking purposes because a great amount of poisonous substances from decayed plant and animal life and from refuse gets into the water after it strikes the ground.

18. *Boiling,* if the process is kept up for fifteen minutes or more, is effective in killing disease germs; but the process does not remove the dead germs or poisonous substances from the water. *Filtration,* a simple process by which water is caused to pass through sand, gravel or charcoal, is effective in removing disease germs and some chemical poisons, if the filters are cleaned often. Otherwise, they infect the water instead of purifying it. *Distillation,* while an expensive process, is really the most effective manner of purifying water. In this process the water is changed to steam and then condensed, leaving out all disease germs and injurious compounds.

19. No. It is a mixture of gases.

20. The pressure of air is about 15 pounds to the square inch and this pressure is only great enough to raise a column of water about 30 feet above its surface. Without the use of additional devices water can not be pumped more than about 30 feet above its surface.

21. By use of the barometer one soon learns to forecast weather conditions. As air pressure decreases as we rise above the level of the sea, so, the barometer, as a measure of air pressure, is useful in determining the elevation of points on the earth's surface.

22. By humidity is meant the per cent of water vapor in the air. For example: if the humidity is given as 85, it is meant that the air contains 85 per cent of the amount of water vapor it could be made to contain at the same tem-

perature.

23. The air pressure inside the body is practically the same as the pressure from the outside. If this were not so, the body would be crushed by the pressure of about 15 pounds to the square inch of surface. A person whose life is not spent in the mountains sometimes experiences extreme suffering, together with nose bleed, on ascending a high mountain. As the pressure within the body remains about the same—does not change rapidly with changing conditions—while the pressure from the outside is much less in high altitudes, the blood is forced through the membrane of the nose, and bleeding results.

24. Open an ammonia bottle in an unventilated room and almost immediately the odor is perceptible in all parts of the room. This is conclusive evidence that the molecules travel at a rapid rate. Examination of the bottle indicates no perceptible difference in the amount of amonia contained. Therefore, the molecules must be very small.

25. The temperature remaining the same, the pressure of a given mass of gas varies *inversely* as the volume.

26. (a) The energy that a body has on account of its condition or position is called its *potential energy*. (b) *Kinetic energy* is the energy a body has on account of its velocity. (c) Energy that is used to hold or move an object is called *force*. (d) Whenever force acts upon a body to produce motion or modify motion, *work* is done. (e) A *machine* is a mechanical device for applying force advantageously.

27. The simple machines are: the lever, inclined plane, wedge, screw, pulley, and wheel and axle. The *lever* and *inclined plane* are basic.

28. Mechanical advantage, as the term is generally used, refers to the ratio existing between the force overcome and force employed as power. Ex.—If by use of a machine, a weight of 1000 pounds be lifted by applying 100 pounds of power, the mechanical advantage is 10. Mechanical advantage might also apply to the ratio between the speed of the force overcome and the force employed as power. This is the case when a machine is used for gaining speed.

29. In general, friction decreases the efficiency of machines.

In a few cases, as in stopping a train, friction increases efficiency.

30. (a) A nutcracker is a *lever* of the second plass. (b) A copying press is a form of *screw.* (c) Block and tackle employes the principles of *pulleys.* (d) Capstan is a form of *wheel and axle.*

31. To make use of the principle of the inclined plane.

32. Lodestone, or magnetite, was first discovered by ancients in Magnesia in Asia Minor. It became very famous as a "Magic stone" because it would attract small pieces of iron. During the 11th Century it was discovered that if allowed to swing freely, it would point almost due North and South and thereby it came into practical use. It is an iron ore and is found in quantities in Sweden, Spain, Arkansas, and some other parts of the world.

33. The earth is a magnet, having a magnetic north pole and a magnetic south pole. (These poles do not coincide with the geographic north and south poles. The magnetic north pole is about 1000 miles from the geographic north pole, being located at latitude 75 degrees 5 minutes N. and longitude 96 degrees 46 minutes W.). The magnet in the northern hemisphere, if in a line due south of the magnetic north pole, will point due north. If east or west of this line will point northwest and northeast respectively.

34. Because of this fact, we are able, by use of a compass to determine directions at any point on land or sea.

35. The telephone does not transmit sound. Speaking into the transmitter of a telephone causes vibrations of a piece of elastic sheet metal within the tranmitter. These vibrations control the induced current of electricity which passes over the wire and into the receiver at the other end. The re-receiver is equipped with a similar elastic sheet steel disk which receives the controlled current, and in turn is caused to make the same vibrations as were made by the disc in the trasmitter. These vibrations, striking the ear drum, reproduce the sounds which caused the vibrations in the transmitter.

36. It is dangerous to stand under a lone tree during a thunder storm, because it is the only tall object in that vicinity and, should a flash come in that direction, it will be likely to conduct it to the ground. In the forest, there are a number of good conductors, and your tree is no more likely to be the conductor than any other tree in that vicinity.

37. Yes, if of a material that is a good conductor, deeply imbedded in the moist earth, and equipped with numerous steel points, they are very effective. Different from the common idea, they do not attract charges and conduct them to the ground; but, by quietly emitting sparks they neutralize the potential difference between the clouds and the earth. If, of a material that is a poor conductor the induced charge becomes so great that it attracts the charge in the clouds, then the spark from the cloud being so great, suddenly rushes to the ground and has in a number of cases been known to melt the rod and burn the building.

38. The nerves of the retina of the eye are able to receive only about 10 sensations per second as distinct impressions. If more than this number be shown us, we cannot distinguish them and they appear as a continuation of one object. So, in moving pictures, when we are shown about 15 pictures a second of the persons in different positions, we see them as moving.

39. No. The falling of the tree would put sound waves in motion; but sound is a sensation conveyed to the mind by the ear. Consequently, the absence of the ear to detect, would necessarily indicate the absence of sound.

40. The organs that produce our speech sounds are the vocal cords. The pitch of those sounds depends upon the rapidity of the vibrations. Long, thick cords do not vibrate as fast as shorter, thinner ones; so, women can sing higher notes because their vocal cords are shorter and thinner.

41. When one has a cold, the eustachian tube, which leads from the throat to the middle ear, becomes closed at the throat end. Then the air pressure cannot be kept the same in the middle and outer ear. Consequently, stuffiness and poor hearing result. Sometimes the ear drum becomes ruptured and deafness follows.

42. The more common classes are: *protozoans, worms, insects, crustaceans, amphibians, reptiles, birds* and *mammals.*

43. The hookworm is a small worm that lives in the soil in warm climates. It enters the body through the skin on the sole of the foot. The poor people of the south do not wear shoes and consequently are subject to this disease.

44. Man is different from other animals in that he is superior to all others. He is not superior, in all cases, in physical power, but he is very much superior in *brain power* and *adaptibility.*

45. The plants and animals that man can see with the naked eye, he has learned to either destroy or turn to accomplishing good for him; but the microscopic plants and animals that are enemies to him offer the greatest resistance.

46. According to Newton's law of gravitation they would strike the ground at the same time.

47. 256 feet. (A body falls 16 feet the first second and has an acceleration of 32 feet each second of its fall).

48. 104 pounds. (No allowance is made for friction in any of these theoretical problems). Power is equal to weight divided by twice the number of movable pulleys.

49. 1 degree Centigrade is equal to 1.8 degrees Fahrenheit. Multiplying 1520 by 1.8 we get 2736. Then iron melts at 2736 degrees F.

50. 6 and 4½ feet respectively from the point of support. The principle of the lever: $P \times PD = W \times WD$.

Composition and Rhetoric

QUESTIONS

1. Why should one make a study of Composition and Rhetoric?
2. What is the practical value of the correct usage of English?
3. What is language? Name the principal kinds.
4. Define: sentence, paragraph, theme.
5. What is the relation of the sentence to the paragraph and of the paragraph to the composition as a whole?
6. What adds most to the effectiveness of sentences, paragraphs and compositions?
7. What is a figure of speech?
8. Name some common figures of speech.
9. Define and illustrate common figures of speech.
10. What can be said of the advisability of using figures of speech?
11. Define: superscription, salutation, introduction, conclusion.
12. What four forms of composition, Define them.
13. What is diction? Versification?
14. What three rhetorical qualities should each sentence, paragraph and composition possess? Define each.
15. What three kinds of rhetorical sentences have we? Define and illustrate each.
16. What is the most important part of a composition?
17. How is thought most effectively conveyed?
18. What is meant by vocabulary? What three vocabularies have we?
19. What is meant by "form" in themes?

20. What general rules for proper form should be observed in writing themes?

21. What is the "comma" habit? The "and" habit?

22. What can be said of indentation in written composition?

23. What can be said of neatness in written work?

24. What is the difference between subject and title?

25. What is the difference between rewriting and revising a theme?

26. What argument is offered against a close study of correct form for a beginner in Composition and Rhetoric?

27. What argument is offered in its favor?

28. Into what three parts may a theme be divided?

29. In a great number of themes, one of these may properly be omitted. Which one?

30. What advantages may be gained by using compound and complex sentences?

31. A close study of the dictionary or a wide knowledge of words, helps one in what way in getting proper form for written composition?

32. How should form in written work vary?

33. Who frames our laws of speech?

34. Of what length should a paragraph be?

35. Should a beginner attempt a complete composition?

36. In what ways may one secure information for a paragraph or a theme?

37. In what ways may paragraphs be developed?

38. Give a list of subjects for development in each of the foregoing ways.

39. What should govern in the choice of plan of development?

40. What is the topic sentence?

41. Should it always be stated in the paragraph?

42. How obtain unity, coherence and emphasis in paragraphs?

43. What rule should be observed in choosing a subject for a paragraph or theme?

44. What mistakes do most beginners make in choosing a subject?

45. What is a transitional paragraph?

46. Why should not letter-writing be named as one of the forms of composition?

47. Name five subjects, suitable for development by narration.

48. Five, suitable for development by description.

49. Five, suitable for development by exposition.

50. Five, suitable for development by argument.

51. How improve your writing in euphony?

52. What can you say of directness?

Composition and Rhetoric

ANSWERS

1. To enable him to express freely, clearly, and forcibly his ideas.

2. The correct use of English probably has a greater practical value than has proficiency in any other subject. We do not wish to minimize the value of mathematics which has been held before us as the most practical school subject; but, bearing in mind that people seldom change their opinions of us from the ones formed when first they meet us, it seems that it is highly practical that we be able to effectively impress people by our language. Suppose that, during the next week, you meet a thousand persons, some of whom are wizards at mathematics, some architects, and some noted physicians. Is it not true that you form your opinion of each, as an individual, by the things he says and the way he says them?

3. (a) Language is the expression of thought. (b) Three kinds of language are: sign language, spoken language and written language.

4. (a) A *sentence* is a word or a group of words used to express a thought. (b) A *paragraph* is a sentence or group of sentences that expresses one main thought. (c) A *theme* is any exercise in written composition.

5. As a word is a component part of a sentence, so, is a sentence a component part of a paragraph, and a paragraph, of a composition as a whole.

6. Choice of words.

7. A figure of speech is the use of an expression as changed from its original signification, for the sake of giving life or emphasis to an idea, or for adornment.

8. Simile, metaphor, personification, metonym, synecdoche, and allegory. There are many others but these are the common ones.

9. (a) A *simile* is an expressed, imaginative resemblance between two unlike objects; He climbs *like a cat,* and he fights *like a lion,* are examples. (b) A *metaphor* implies a resemblance between unlike objects; *He is a lion* in a fight and that *man is a fox,* are examples. (c) *Personification* is a form of metaphor in which an inanimate object or abstract idea is represented as having life or personality, also sometimes attributes human qualities to lower animals; *Starvation stared* him in the face, and the *wall hurled* back his javelin, are examples. (d) Metonomy is substituting the name of one thing for another that suggests it: The *city cast* its vote, and, we are *reading Shakespeare,* illustrate this figure. (e) *Synecdoche* is a figure in which a part of a thing is substituted for the whole, or the whole of a thing, for a part: Fifty *sails* were on the lake, is an illustratio.n (f) A figurative discourse, in the form of a narration which teaches a moral or truth, is known as an *allegory. "Pilgrims Progress* by John Bunyan is good example.

10. Figures of speech if well drawn and aptly applied, are very effective; but the ability to express ourselves simply and without adornment, should be our aim. A good rule to observe in the use of figurative language is "use only those figures that come to us naturally." Never write for the purpose of displaying figures of speech, for we are in danger of employing inappropriate, exaggerated or mixed figures, which detract from the beauty of natural expression.

11. (a) *Superscription* is a term in letter-writing and refers to the name and address of the person to whom you are writing. It may appear at the beginning of the letter, and on the outside of the envelope. (b) *Salutation,* a term also used in letter-writing, appears immediately preceding the body of the letter. It is a form of greeting and will vary with the nature of the letter and the relationship of the parties. (c) The *introduction,* the beginning of any composition, should always have for its purpose the arousing of interest and, in narratives, will usually include enough of the story that the reader will learn who, when, where, and possibly why. (d) The *conclusion* of a story is that part that appears after the climax has been reached, and should be short.

In argument, the conclusion is a brief summary of the argument produced.

12. The four forms of composition usually recognized are: narration, description, exposition and argument. *Narration* is the form employed to relate a series of events. *Description* is the form employed to create an image. *Exposition* is the form used to explain. It answers such questions as; How? Why? What is its meaning? What is it used for? *Argument* is employed to prove the truth or falsity of a proposition, about which there is a doubt.

13. (a) *Diction* refers to the choice of words to secure clearness, accuracy, or variety in the expression of ideas. (b) ***Versification*** is an arrangement of words in such a manner that there is a regular recurrence of accented and unaccented syllables. Its purpose is harmony and beauty.

14. Unity, coherence, and emphasis. *Unity* is that rhetorical quality that restricts the sentence, paragraph, or composition to one main idea and excludes all minor ideas that are not absolutely necessary to its clear development. *Coherence* shows the unmistakable relation of the parts to each other. *Emphasis* requires the arrangement of the parts according to relative importance.

15. Loose, balanced, and periodic. A *loose* sentence may be terminated in one or more places before the end and still make complete sense, as; *The deer dashed wildly across the clearing, with his head held high, and his feet beating a merry tune on the sod.* A *periodic* sentence is of such construction that the meaning is not obtained until the end is reached and, consequently, could not be concluded before the end, as; *With his head held high and his feet beating a merry tune on the sod, the deer dashed wildly across the clearing.* A *balanced* sentence, as the name implies, has its parts very much alike in form and of about equal length and importance, as; *"Talent is something, but tact is everything."*

16. The thought.

17. By use of language correct in form and by proper choice of words.

18. A person's vocabulary is the stock of words at his command. The three vocabularies are: Reading vocabulary, speaking vocabulary, and writing vocabulary.

19. *Form* in a theme refers to the mechanical and has for its purpose the arrangement of the parts in such a way, that the theme is attractive to the eye.

20. A theme is any exercise in written composition. It refers especially to exercises by pupils. Many of the following rules will apply to anything written. (a) Paper—use ruled, white paper of uniform size, (large letter size), about eight by ten inches is suggested. These sheets should be numbered and folded one lengthwise, when handing to instructor. There should be writing on one side only. (b) Margin—There should be a margin of about one inch on the size paper mentioned. The margin should vary with the size of the sheet. Keep the margin straight. No effort should be made to keep a margin on the right. (c) The *title* or *heading* should be written in the space at the top of the page at about two-thirds of the distance from the top of the page to the first line. Try to leave an equal space on either side of the title. (d) *Capitalization* and *punctuation*—all rules learned in grammar should be observed. (e) *Indentation*—The first word in each paragraph should be placed a little to the right of the flush line of the page. This device is a rest to the eye in reading and an indication to the mind that a new thought is to be developed. (f) *Indorsement*—Upon the outside upper part of the outside sheet of the folded theme, should be written an indorsement of four lines, writing toward the rough edge of the paper. This indorsement consists of; the name, the subject, the class, and the date.

21. The "comma habit" is one of the worst faults found in beginners' written work. It is very difficult to correct for it is an indication of ignorance of the primary laws of grammar, or it indicates carelessness, and both defects are difficult to correct—in fact, can be corrected only by painstaking work on the part of the student himself. The "comma habit" may occur in either of the following forms: The writer divides his words into groups of two or three or

four words by use of the comma regardless of whether the construction calls for it, or not. Or, he writes a number of short complete sentences, and instead of combining into complex or compound sentences or closing them with periods, he sets them off with commas. The remedy for the first form of "comma blunder" is to make a close study of the use of the comma (consult a textbook) and then use one, only when he is sure the construction warrants it. The remedy for the latter form is to select passages from your own written work, in which you think you have been guilty of the "blunder" and make complete analyses of the sentences. You will easily detect your error. The "and habit" consists in making a number of short sentences connected by "and". It indicates ignorance of grammar and shallowness of thought. It destroys the euphony of the composition. The remedy is to read your composition aloud to discover your mistake. Then practice combining sentences to tell the same thing by using some of your original sentences as modifiers in the newly formed sentences.

22. *Indentation* add to the appearance of a composition. It rests the eye in reading and indicates to the mind that a new thought is to be developed. The fault with most beginners is, that they write a few sentences, then indent and write some more sentences, whether a new main idea is presented, or not. A good way to learn proper indentation is to observe closely indentation as used by good writers. Then, follow this by making an outline of each subject about which you write—making logical divisions of your subject. Such divisions dealing with one main part of your subject will naturally form a paragraph.

23. Neatness in anything you may do in your life will cause it to be commended to the highest its qualities will permit, therefore, be neat that you may receive your full measure of credit for the work you do.

24. The term *subject* is a general term while the term *title* is definite. The teacher may assign a general subject for tomorrow's theme, and each pupil may have a different title under this heading. For instance, the teacher may assign a general subject for tomorrow's theme, and each

pupil may have a different title under this heading. For instance, the teacher may assign as a subject: "A Day's Vacation". Your title may be, "A Fishing Party at Glen Dale," some one else may have "A Day at Grandma Johnson's", as her title, etc.

25. When an instructor hands a theme back to a pupil he has a great number of times written in the margin, suggestions for improvement. Quite often he calls for "revision" or "rewriting". Revision calls for minor corrections, usually in the matter of sentence construction, punctuation, capitalization, etc. While rewriting calls for material changes in the body content of the theme. A good theme may have mechanical errors that call for revision, but more often the poorer themes that are not worth rebuilding, are revised. Rewriting a theme doesn't mean a practice in penmanship, but really calls for more work and teaches more about composition than the preparation of the original manuscript.

26. The principal argument offered by those who are opposed to emphasizing the mechanical for beginners in English is; That we must encourage the pupil to freely express himself and that the proper form can be taught later. The idea is, that if hampered by rules, he will be afraid to explain himself for fear of making mechanical errors.

27. The argument in favor of teaching correct form to beginners is, that it is as easy to learn right as wrong and that no time need be wasted correcting errors later.

28. The introduction. The body, and the conclusion.

29. The conclusion.

30. By using compound and complex sentences instead of a great number of short disconnected ones, we get away from the "choppy" effect, thereby destroying monotony and developing euphony. The use of compound and complex sentences also is a great aid in securing coherence in the paragraph.

31. In a great number of instances in written work the question is not so much, is it proper to use a certain word: as, is it

the most effective word I can use? Then, again, it produces monotony if the same word is used a number of times. Therefore, a good stock of synonyms is an indespensible asset of the effective writer.

32. The form in the written work should vary with the *nature* of the composition, the *purpose* for which it is written and the *mode* of *development* used in writing it.

33. The best writers and speakers of our own age and country. Like our National Laws, we have a voice in the law-making; but again, as in the nation, we delegate the power to those specially fitted for the work.

34. It may be one word or it may be more than a page. The number of words has nothing to do with it. The length of a paragraph should be the number of related sentences necessary to completely develop one phase of a subject.

35. No. The paragraph first.

36. By reading, by observation, by conversation with people posted on the subject, and by imagination.

37. By stating the cause and giving effect, by giving particulars and details, by comparison or contrast, by specific instances, by repetition or by a combination of two or more of these methods.

38. Subjects for development: (a) Stating cause and giving effect; *Large cities are located on bodies of water. St. Paul is a great flour manufacturing city.* (b) By giving particulars and details: *Rivers furnish easy routes of travel. The telephone aids in the saving of time.* (c) By comparison or contrast: *The school, a beehive. Charles Darnay and Sydney Carton.* (d) By giving specific instances: *Most accidents occur because someone failed to do his duty Large cities are on water courses.* (e) By repetition: any general statement can be made more forcible by saying the same thing a number of times. The Minister makes use of this in repeating his text. (f) By a combination of two or more methods. This is used extensively, as in the subjects: *Most large cities are on bodies of water. The easiest routes of travel are along water courses.*

39. The subject itself and the purpose for which it is written.

40. The topic sentence is a clear, concise statement of the main thought of a paragraph.

41. No.

42. *Unity*: By making an outline of the material to be used, the topic sentence and minor details can easily be selected. A good rule is to leave out everything not essential to the development of the subject in the particular instance for which you wish to use it. i. e., a detail that is properly used in one instance may not be necessary for development of the subject for a different purpose. *Coherence* may be obtained by making an outline of material and selecting only such statements as relate to each other and to the topic statement. Each idea must form a link in the general chain of thought or topic statement. *Emphasis* may be obtained by making a close study of the thought to be developed and placing the topic sentence in the position where it will be most effective. The most effective position for a topic sentence is usually at the very beginning or at the close of a paragraph.

43. Choose a subject that you know something about and one in which you are interested.

44. Most beginners choose a subject that is too broad. A narrow subject is much more easily developed definitely than a broad one. To illustrate; a broad subject—*The U. S. Navy*. A more definite theme could be written from the subject, *The Pacific Squadron*, and one still more definite if one battleship is taken for the subject.

45. As a word or phrase may be used to denote the relationship between paragraphs, so may an entire paragraph be used to show relationship between one group of paragraphs and another group in the same theme. Such a paragraph is known as a transitional paragraph. A transitional paragraph usually sums up what has bee said and introduces a new plan to be used in the suceeding paragraphs in the development of the same general thought.

46. Because it is made up of narration, description, exposition, or argument, or, of a combination of two or more of these forms.

47. My First Day at School. A Hallowe'en Party. Election Day. The Civil War. Won in the Ninth Inning.

48. My Old Home. A Railroad Tunnel. A Sailing Vessel. The View from Lookout Mountain. My Best Friend.

49. The Causes of the Inter-Colonial Wars. Why I Like Athletics. How Unequal Heating Causes Winds. Why an Aeroplane Leaves the Ground. How to Bake a Cake.

50. Railroads should be Owned by the Government. Athletes Seldom Stand High in Their Classes. Fairy Stories Should Not be Told to Children. Every Child Should be Taught a Trade. Soott's Ivanhoe Makes Rebecca More Attractive Than Rowena.

51. By reading aloud, the parts that do not sound well can be detected and rewritten to make them more pleasing to the ear.

52. Directness in speech or writing always makes a stronger appeal. A good rule to observe is "Talk to the point and stop when you have reached it."

American Literature

QUESTIONS

1. With what does the literature of nearly every nation begin?
2. How and why does American literature differ in this respect?
3. Does the literature of most countries begin with prose or poetry?
4. Does American Literature differ in this respect? Why?
5. Give some good reasons why the early colonists paid so little attention to the writing of books.
6. What was the nature of the writings of the colonists?
7. What thought, or principle, do you think was in the minds of the early writers, that caused much of their work to be of a historic nature?
8. Why should the early literature of our country be studied?
9. Did the early writers deal mostly with romance, or with facts?
10. Mention one writer of early colonial time, whose writings are more of an imaginative or fanciful nature, rather than of true facts.
11. What two things did the colonists believe were of the utmost importance in the laying of the foundation for a new government?
12. With the records of what man, shall we say American Literature begins?
13. Briefly describe the life of Bradford.
14. What was his greatest gift to literature?
15. Whom shall we mention next in importance to Bradford?
16. Briefly describe the nature of his writings.
17. In colonial literature, for what is Samuel Sewell chiefly noted?

18. Who was probably first among the colonial writers to attempt to add attractiveness and style to his writings?

19. Mention three interesting productions of the above writer.

20. What was the most popular book of colonial times? Who was the author?

21. What colonist wrote several excellent books about the Indians and Indian life?

22. In reference to literature and the Indian, for what is John Eliot famous?

23. Who was the author of the first book of poems written during colonial times?

24. What was *The Day of Doom?*

25. What was probably the first drama ever printed in America?

26. With whose writings shall we say that artistic literature began in America?

27. Mention two of the greatest theological writers of colonial times.

28. Who wrote the first book of *national heroes*?

29. Over what strange work did Mather labor, fast and pray for nine years before he completed it?

30. For what is Jonothan Edwards noted?

31. What effect did *The Revolution, The Declaration of Independence, the framing of the constitution* and *the founding of a new nation* have on American Literature?

32. Why was so much of the poetry during the Revolutionary Age, of a satirical nature?

33. Why were the prose writings of this age so much better than the verse?

34. With Jonathan Edwards, was closed one age in literature. With whom did the next begin?

35. What was Franklin's greatest literary prduction?

36. Are his works generally considered of great literary value?

37. With reference to literature, for what do we remember the following men? Washington, Hamilton, Jefferson, Moore, Sargent.

38. Who were *The Hartford Wits*?

39. What did they attempt?

40. Into what two classes can the writings of Philip Frenau be divided?

41. What characteristic is noticeable in all of his works?

42. Who was Phyllis Wheatley?

43. Explain: *Common Sense; The Crisis.*

44. Who wrote the first important American comedy?

45. Who was the founder of the American novel?

46. What was his first book? His best?

47. Mention several prominent characteristics of the literature at the beginning of the nineteenth century.

48. Who is the author of the following: "Tour of the Prairie", "The Alhambra," "Bracebridge Hall," "Tales of a Traveler."

49. Mention several qualities that characterize Irvings writings.

50. What is his best known work?

51. With what two things do many of Bryant's poems deal?

52. What are some of his better known poems on nature?

53. What is considered his best production? What is the meaning of the title?

54. Who is often said to be our first poet of nature?

55. Who was styled *The American Scott*?

56. What is his most widely known book?

57. How many books constitute *The Leather Stocking Tales*? Name them.

58. What American author has attracted more attention abroad than any other?

59. Briefly describe Poe's life and writings.

60. Name the author of the following: "Swallow Barn", "Horeshoe Robinson", "Redwood", "Charlotte Temple", "Pencillings by the Way", "The American Flag", "Marco Bozzaris".

61. What did Bancroft contribute to literature?

62. Who wrote *Two Years Before the Mast*?

63. Who is called the household poet?

64. Mention some of his better known poems.

65. Who is often called *The New England Poet*?

66. What is his most famous poem?

67. What is the nature of the greater part of Emerson's writings?

68. What is Lowell's best known poem?

69. Of the poems by Oliver Wendall Holmes, which was Lincoln's favorite?

70. Who wrote, "The Song of the Chattachooche", "The Chambered Nautilus", "To a Dandelion", "The Snowstorm", "Maud Muller"?

71. What poem did Walt Whitman write in tribute to Lincoln?

72. What great author lived a hemit life for twelve years?

73. Name the author of "Uncle Tom's Cabin", "Hoosier School-master", "Little Women", "Walden", "Merry Mount" "California and Oregon Trail".

74. For what is Joel Chandler Harris most remembered?

75. What recent poet is often mentioned as *the poet of childhood*?

76. Who is often called *The Hoosier Poet*?

77. What was the pen name of S. L. Clemens?

78. Mention some of his best known books.

79. Mention some historical writers of recent date.

80. Who is the author of *The Story of a Bad Boy*?

American Literature

ANSWERS

1. The literature of most nations begins with its legends; its myths, songs and stories woven from fancy and imagination; its stories of Gods, of dragons, of heroes and of of fairies. These legends and traditions are handed down from generation to generation and usually form the basis for the literature of the nation.

2. But in this respect we find the literature of America far different. Beginning a new life in a new land, without legend or tradition, we find a people surrounded with hardships and dangers. A populace whose minds were occupied with cold facts and not with fancy; with the problems of living, of learning, of governing, and of worshipping, many of which were their reasons for sojourning to a land, then, so little known. Their sacrifice had been great. To justify themselves in making it, required building upon a solid foundation, the principles which were soon to establish a nation among nations.

3. The literature of many older nations begins with poetry.
4. American literature, because of the nature of its beginning (which we have already described) necessarily begins with prose.

5. In a land without legend or tradition—a land not a nation—with scattering settlements, separated, isolate and self-dependent—a land settled by a people who must eke out of the wilderness, a livelihood, a people who would establish the very things that had caused them to leave their mother land —there do we find the beginning of our American literature. Can we little wonder, then, with all these problems confronting them, that the early colonists wrote but few books.

6. Most of the writings of the early colonists were of a historical and theological nature.

7. In studying the works of many of the early writers, we seem to get the thought that they, even at this early date,

had conceived the idea of a new nation, of independence and of liberty. For that reason we would naturally suppose that historical literature predominated during the early colonial period.

8. In the early literature of our country we find woven the thoughts and ideas of the men and women, who founded the place we call home. To form a closer relation and to get a little better understanding of these people, to get an insight into their character, to learn of their feelings, their thoughts and aspirations, to realize their difficulties in sustaining their high ideals and purposes; these are but a few of the reasons why the study of colonial literature, (which is a study of the lives of the people who laid the foundation for the "Home of the Free") to us, should be more interesting than the best of fiction.

9. Facts and truths, not romance or fancy, characterize the writings of most of the early colonists.

10. John Smith, however, was an exception to the above statement. Romance and exaggeration are found in many of his writings.

11. Education and Religion.

12. Governor William Bradford.

13. Bradford was a well-read student. He was broad-minded, fair in his dealings, loyal to his ideals, unsuperstitious, charitable and tender, yet brave and determined. His writings were simple and sincere. True records and biographies constitute his work as a historian. He was born in England about 1590 and died in 1657.

14. His greatest work, *Of Plymouth Plantation*, deals largely with early Pilgrim life.

15. John Winthrop.

16. Winthrop's *Journal* leads us to believe that he was somewhat superstitious, but we must remember that he lived at a time when people believed in witchcraft. We could hardly call him a historian for his writings are so disconnected. They were more like a diary, often describing on the same

page, a number of events that have no bearing whatever upon each other. But he was a faithful writer, having given an extensive and interesting story of early colonial life, although we are forced to believe that in some instances he is misleading.

17. Sewell's greatest literary production was his *Diary*. In it he depicts the customs, habits, and beliefs of the colonists. His varied record of happenings gives us a keen insight into the real character of colonial life.

18. William Byrd.

19. *A Progress to the Mines, A Journey to the Land of Eden,* and *The Dividing Line* are three interesting works of William Byrd. He differs from his predecessors in that he adds a brightness and attractiveness to his writing. There is also, often a humorous side, which makes his stories even more entertaining.

20. *The Simple Cobbler* by Nathanial Ward.

21. Probably the best were written by Daniel Gookin.

22. His *Indian Grammar* and his *Translation of the Bible into the Indian Tongue.*

23. Ann Dudley Bradstreet.

24. *The Day of Doom* was a book written by Michael Wigglesworth, about 1660, in which a vivid description of the Last Judgment is given.

25. *The Prince of Parthia,* written by Thomas Godfrey about 1763.

26. Thomas Godfrey's.

27. Cotton Mather and Jonathan Edwards.

28. Cotton Mather.

29. Magnalia Christi Americana, or The Ecclesiastical History of New England.

30. Edwards is noted for his wonderful treatise, *The Freedom of the Will.* It is a theological work and shows deep reasoning power which he must have had.

31. In our study of colonial literature, we have noticed the general tendency of the writers to limit their writings to their surronundings. The Divine rather than the human, is the theme of many of their works. They have emphasized Heavenly things and left almost untouched, the beauties of Earth. Their poetical, historical and theological works are narrow and deal too much with the future life. But a great revolution had taken place. The rights of the colonists had been denied them and an attempt to gain those rights results in a great struggle between the colonies and their mother country, known as the Revolutionary War. Of the events preceding this bitter contest and the gloomy years of its duration, we have all read. Is it not natural to conclude that this great movement, together with the inpendence which the brave colonists won, and the forming of a new nation, (a union in the true sense of the word) will have a remarkable effect on the literature of the time? Is it not natural to think that this critical period in American History would give rise to essays, poems, pamphlets, stories, newspapers—in fact, all kinds of literature concerning the important events of the day? Such was the case. The colonists, during the Revolution had been more closely united, for the danger was a common one. Their closer association had its effect on literature, and the political struggle after the close of the war, gave rise to a new form of writing. The Oratory and the Songs and poems of the opposing political elements were great influences. The spirit and form of literature had been changed. The writers had shifted from Heaven to earth for new problems had presented themselves.

32. Owing to political differences, much of the poetry of the Revolutionary Age was of a satirical nature. Many of the songs and ballads also voiced the spirit of nationality which predominated at that time. Originality is found in the thought but not in the style—this was plainly an imitation of foreign writers.

33. In the prose writings of this age, we find revealed the personality of the writer. Think of the many and serious problems which confronted the people at that time. Think of the thought that must have been put into the orations

and prose writings of the men who established peace and harmony among the states. This was truly original American thought and the style was of the individual himself.

34. With Benjamin Franklin, who, with one exception, was better known than any other American. His Almanac and newspapers were read eagerly throughout the colonies and his experiments in electricity attracted the attention of European countries.

35. His *Autobiography.*

36. Franklin is noted for his inventions and discoveries, also for his strong patriotism and the great service which he rendered for his country, but with perhaps two exceptions, *Poor Richard's Almanac,* and the *Autobiography,* his writings are not considered of great literary value.

37. Washington for his *farewell address;* Hamilton for his essays, *The Federalist*; Jefferson for *The Declaration of Independence*; Moore for his *Songs and Ballads of the Revolution*; Sargent for *The Loyalist Poetry of the Revolution.*

38. Joel Barlow, Timothy Dwight and John Trumbull.

39. *The Hartford Wits* were the first men to attempt to establish a national literature.

40. Satirical writings on politics, and poems of nature and humanity.

41. Romanticism. His writings are said to mark the beginning of romantic poetry in America.

42. Phillis Wheatly was a negro slave girl who created quite a sensation in poetic circles about 1773, when she published a book entitled *Poems on Various Subjects, Religious and Moral.*

43. *Common Sense* was a pamphlet written by Thomas Paine during the Revolution. Its influence toward arousing the people to action, was powerful. *The Crisis* was another of Paine's works, written while he was serving in the American Army under Washington.

44. Royall Tyler, in 1786. It was called *The Contrast.*

45. Charles Brockden Brown.

46. *Wieland* was his first book. *Edgar Huntley* is considered his best.

47. At the beginnig of the nineteenth century, a distinct originality appears in the literature of the day. Another characteristic is the love for nature which many of the writers must have had. Previous to this period, the beauties of nature in our own land had been given but little attention in literature. Bryant, Cooper and Irving are excellent illustrations of authors who found in nature, choice subjects for literary expression. This age also abounded in patriotic writings, both prose and verse, expressing an intense love for home and country. In all the writings, we find reflected, the confidence of America as a new nation. The past was a period of wonderful achievement and progress—from obscurity to a recognized nation of the world. Legendry was created. Numberless tales of frontier life and stories of heroes of the past delighted the readers of a century ago.

48. Washington Irving.

49. Naturalness, clearness, humor, sympathy, sentiment and ease of expression are a few of the qualities which have caused Irving's writings to interest and amuse so many readers.

50. *The Sketch Book*, a series of papers of which *Rip Van Winkle* and *The Legend of Sleepy Hollow* are the best known.

51. Death and Nature.

52. "The Gladness of Nature", "Robert of Lincoln", "'To a Fringed Gentian,,' "The Yellow Violet", "Autumn Woods", "The Prairies", "A Rain Dream", "Summer Wind".

53. *Thanatopsis* is the best known of Bryant's poems. The word means "a view of death."

54. William Cullen Bryant.

55. James Fenimore Cooper.

56. The Spy.

57. Five. *The Pioneers, The Pathfinder, The Last of the Mohicans, The Deerslayer,* and *The Prairie.*

58. Edgar Allen Poe.

59. Poe stands apart from all the other American writers in the tragedy of his life. He was reared in luxury—a gentleman. Aloof in nature, he acquired no close friends. His college life was made short because of his gambling and drinking. He soon wandered into the world, resorting to his literary talent for a livlihood. Living in poverty was probably the cause of the death of his young wife. His grief and suffering after her death mentally unbalanced him. Then follow two years of dissipation striving for "surcease of sorrow", his second marriage and his sudden death in Baltimore in 1849. His writings are of both prose and verse and he usually deals with the unreal. His tales are generally wierd, sorrowful or filled with horror, and his poetry reflects his sad melancholy life. *The Raven* is the most famous of his poems.

60. Kennedy; Kennedy; Catharine Sedgwick; Susanna Rowson, Nathaniel Willis; Drake; Halleck.

61. A History of the United States.

62. Richard Henry Dana; George P. Morris.

63. Henry Wadsworth Longfellow.

64. "Evangeline", "Hiawatha", "Miles Standish", "Tales of a Wayside Inn", "The Children's Hour".

65. John Greenleaf Whittier.

66. "Snowbound".

67. Essays.

68. "The Vision of Sir Launfal".

69. "The Last Leaf."

70. Lanier; Holmes; Lowell; Emerson; Whittier.

71. "O Captain ,My Captain."

72. Nathaniel Hawthorne.

73. Harriet Beecher Stowe; Edward Eggleston; Louisa M. Alcott; Henry David Thoreau; Motley; Parkman.

74. His *Uncle Remus* Stories.

75. Eugene Fields.

76. James Whitcomb Riley.

77. Mark Twain.

78. "Tom Sawyer" and "Huckleberry Finn".

79. McMaster, Woodrow Wilson, Fiske, Rhodes, Sloane.

80. Thomas Bailey Aldrich.

Business and Writing

QUESTIONS

1. What are some of the simple rules which govern good writing?
2. What are some of the things to be especially cultivated in learning to write?
3. Mention some things to be avoided.
4. Is the use of punctuation, capitals, etc., of importance in business writings?
5. What is meant by the *heading* of a letter?
6. State the correct position and forms.
7. What is the *salutation* and what relation should it bear to the person or firm addressed? Give examples.
8. What should the *body* of a letter contain and how should it be arranged?
9. (a) State the rules governing the *close* of a letter. (b) The *signature.*
10. What things should be written upon the envelope?
11. Give a list of things which it is well to observe in letter writing.
12. What are the purposes and forms of business and calling cards?
13. What is the basic principle upon which all business is based? Define.
14. Are all things subject to law?
15. What is the real purpose of law?
16. (a) If we disobey a law that we do not know exists, are we responsible? (b) Why is this provision made?
17. (a) What meaning has the word *precedent* as applied to law? (b) Is it recognized by most courts today?

18. Is *precedent* ever broken? If so, under what circumstances may it be so done?

19. Do cases ever arise which cannot be decided by *precedent*?

20. (a) What is meant by an unwritten law? (b) Mention an example.

21. Under what heads are legal rights classed?

22. What is meant by *municipal law*?

23. With what does *international law* deal?

24. Does *martial law* ever supercede *civil law?* Give illustration.

25. (a) What are all American laws based upon? (b) Is there an exception?

26. What is meant by a suit in *equity*?

27. What is a contract?

28. What two kinds of contracts are there?

29. To which of these classes does the written contract belong? The oral?

30. Who is eligible to make a contract?

31. Before a contract can be binding, to what things must it conform?

32. Does a contract have to be written and signed before it can be considered binding?

33. Must contracts be made in ink?

34. What is a guaranty?

35. If a person accept part of an order of goods contracted for, is he obliged to settle for the remainder?

36. (a) How is the person implicated, who signs a note for another? (b) Is there any way he may not be liable?

37. What about the validity of a contract made on Sunday?

38. Can a contract be dated back and still be valid?

39. May a person who is unable to act as a principal to a contract, serve as agent for another? Give an example.

40. Explain what is meant by the term, agent.

41. (a) What is a principal? (b) Must the principal be an individual?

42. Is the principal responsible for the acts of the agent?

43. May an alien act as an agent?

44. What is the difference between a *general* and a *special* agent?

45. (a) What class of agent would an auctioneer be classed as? (b) Does he have a written contract with his principal?

46. Can an auctioneer execute a deed to real estate sold?

47. Suppose that a *by-bidder* should bid an exhorbitant price for an article with the expectation of making it bring a stipulated sum, does this compel the auctioneer to accept the bid?

48. How can an auctioneer secure his commission on property sold?

49. What is the difference between an auctioneer and a broker?

50. Suppose an agent grossly misrepresents an article, is his principal liable for such misrepresentation?

51. Suppose goods are sold which are defective, is it a fraudulent sale?

52. Suppose an order is given on Sunday for goods to be delivered the same day. No money is paid until the day following (Monday), when a part payment is made. The purchaser then decides he has made a bad bargain and invokes the law for relief, claiming that the sale was illegal, inasmuch as it was consumated on Sunday. Is he liable for its payment?

53. Could a man be held to a contract in which he agreed to run a mile in one minute?

54. In case goods are ordered to be taken from the vendor to the purchaser by a common carrier, such as a railroad, does the title of the goods change when they are received by the common carrier or when delivered to the purchaser?

55. In order to make an instrument legally negotiable, what things should it contain?

56. What are the usual forms of *negotiable* instruments?

57. Would an instrument be *negotiable* which promised to pay a certain value in anything aside from money?

58. If the maker of an inurstment sign it with t typewriter or other mechanical appliance, is it legal?

59. What is the order of liability of endorsers on a *negotiable paper*?

60. What is the difference in a *company* and a *corporation*?

61. What is meant by dividend?

62. Explain the difference between *script dividends* and dividends.

63. Differentiate between common and preferred stocks.

64. (a) Define coupon bond. (b) Registered bond.

65. Tell the difference between a stock-jobber and a stock-broker.

66. What is brokerage?

67. What is the difference between capital and capital-stock?

68. Should one ever sign a paper for a stranger?

69. Is a notice to the agent of a corporation equivalent to notifying the principal?

70. If a gift is made, when does the actual title or legal right change, when the gift is made or delivered? Suppose a person make a gift in the presence of witnesses, but before the gift is delivered, changes his mind as to making it, can he be held to his former declaration?

Business and Writing

ANSWERS

1. We are all doubtless tired of hearing the ever ready and oft repeated rules of writing which by this time, are well established *heirlooms* of every American home. We can't say which of our prehistoric ancestors is responsible for heritage; but we have it and are—or should be—proud of it. Some of our most popular artists in all lines, we are told frequently arrive near a point of detestation of their work through the tiresome rehearsals, which are necessary to pleasingly present their work, to their audiences. In seeing or hearing their work, we think only of the seeming ease, grace and beauty with which it is executed, little heeding the tireless application to which the performer has subjected himself in order to accomplish that which we so much admire. It simply means practice, tireless, ceasless practice. Then in order to arrive at the degree of perfection to which we hope to attain in writing, we should observe the fundamental rules laid down in all text books on the subject. Study diligently, not with the ultimate aim of mastering the rules, but of inculcating indelibly into our minds the importance of practice! practice! practice!! Take an easy position. This does not necessarily imply that we assume a stiff "biquadrant" effect; but one which is natural, restful, and easy to maintain. Do not hold the pen in a cramped position. Shun the concave forefinger. The wrist should be held so as to form a prolongation of the forearm, noting that it does not touch the paper. Use the muscular movement.. The only points touching the paper should be the nails of the third and fourth fingers and the point of the pen. The sides of the paper should be nearly parallel with an extension of the forearm while the pen should be at an angle of something near 45 degrees crossing the forefinger at the knuckle joint. Use the percentage method of learning to write—10 *per cent in knowing how,* 90 *per cent in determination and practice.*

2. In all business writing strive for neatness, brevity and legibility.

3. We should in all business writing, steer clear of flourishes, shading and mixed subjects: i. e. friendship letters combined with business letters, an order for goods along with a request that the firm give you certain information concerning the requirements necessary to fill a certain position which they have open, etc.

4. Most certainly, yes. The first impressions are usually lasting. Do not give a business house the false impression that you are ignorant of forms of good letter writing by the wrong usage, or omission of capitals, pronunciation, etc. Form the habit. The correct usage once formed and stamped upon your minds by practice is hard to break. Refer to your grammar for rules of pronuciation, spelling, capitalization, etc. As the use of capitals is especially imprtant, a few rules are given below for your convenience. (1) The personal pronoun "I" should always be a capital. (2) All sentences should begin with a capital, and in case of poetry, each line. (3) Use capitals to begin all proper names and adjectives. (4) In all reference to Deity, whether by noun or pronoun, the use of the capital *must* be observed. (5) The first word used after an introductory clause or word should be a capital. (6) The days of the week, and months of the year, should begin with capitals. (7) All distinctive titles should be capitalized. (8) The exclamation "O" should be capitalized. (9) Capitalize all personified words. (10) The principal words in book titles, etc. (11) In accounts, capitalize each item. (12) In fact we may capitalize *any* word of special *importance.*

5. By the *heading* of a letter we refer to the place and date of writing.

6. There are different arrangments and places, owing to the address, size of paper, whether or not it is ruled, length of letter, etc. The ordinary business letter is short and paper unruled, hence we can commence farther from the top of the paper than in the letter of friendship. The heading is always in the region of the upper right hand corner. Examples:

Peoria, Ill., Feb. 2., 1921.
1824 Pennsylvania Ave.,
Washington, D. C.,
Dec. 30, 1920.

7. The *salutation* means our *salute,* or way of addressing the person or firm written to. It should depend upon the relations existing between the correspondents, or the title or the rank of the receivers, as to its form. Always fit the salutation to the receiver. Some examples: *Dear Sir, Sir, Sirs, Gentlemen, My Dear Sir, My Dear Mr. Yoder, Dear Mrs. Jackson, Kind Sir, etc.*

8. The *body* of the letter if commenced on the same line with the salutation should be separated from the salutation by a *colon* and *dash.* Some writers use only a comma to separate them. If beginning on the line below the salutation, it should begin to the right of the last word contained in it. The body of the business letter should be short and divided into paragraphs according to the different subjects taken up In all letters, whether business or friendship, the most important part should be taken up first.

9. (a) The *complimentary* close should be in conformity to the salutation. Like the salutation, it should be selected with a view to the relation existing between the parties corresponding. Such forms as *sincerely yours, etc.,* would hardly be in keeping with a salutation of *Gentlemen, etc.* Therefore, see that the complimentary close *substantiates* the relations as set forth in the salutation. Some forms in common use are; Business forms, such as; yours truly, your very truly, yours respectfully, respectfully yours, etc. Friendship forms are of such a variety as to permit a choice which fits exactly any relation. Such forms as; your sincerely, sincerely yours, your affectionately, your brother, your loving sister, endearingly yours, your loving friend, etc., are all good form. No form should be abbreviated. (b) The signature should be plainly written in all business letters unless the relationship is very close in which case, part may be omitted.

10. Upon the envelope should appear the part of the letter commonly known as the superscription. It consists of the name

and address of the person or firm to which the letter within is written. It may consist of two, three or four lines according to the information it contains. The omission of punctuation in the superscription is now coming into favor among some of our foremost educators of the country. With the exception of the period after abbreviations no mark of punctuation is used.

11. (a) It is always good form to use black ink when writting letters, especially business ones. (b) The use of the lead pencil is not good form even in letters of friendship. (c) When writing to a person or a firm for information only, enclose a self-addressed stamped envelope. (d) Duplicates should always be retained of all letters of importance. (e) Always be prompt in answering letters. (f) If it becomes necessary to request a remittance of some one always do so with all due respect, care being taken to use no offensive language. Such language not only lessens the chances of the remittance being sent, but is likely to result in the severance of friendship or both. (g) Always promptly acknowledge all remittances, enclosing receipt for the amount. (h) Notice carefully your punctuation, language, spelling and sound of all letters. Spelling is very important. If in doubt, the dictionary is your friend. (i) It is well sometimes to read your letter aloud after writing it to see that no wrong constructions could be placed on your letter. Deep friendships are sometimes broken by a false interpretation of a friendly letter. (j) When using numbers in a letter, it is best to spell them out if they are small. Figures and words do not make a pleasing combination in a letter. (k) Avoid the use of too many abbreviations in a letter, especially characters, such as; "&" to take the place of the coordinate conjunction "and". (l) Never send out a letter bearing blots of ink, erasures, etc. They indicate not only untidiness, but *carelessness.* (m) The folding of the letter and fitting it to the envelope is of especial importance. A carelessly folded letter may offset *all* the rest of the rules observed. (n) Never forget the stamp.

12. The purpose of the business card is usually to advertise one's business and usually states briefly the nature of the business engaged in, along with the name of the person

representing it. Professional cards are sometimes used to serve as calling cards also. The calling or visiting card is used for an introduction or credential. It is, however, exchanged more as a token of friendship between parties where acquaintance already exists.

13. The basic principle governing all business is—or should be—an interpretation of right and wrong known as Law. Law is a set of rules laid down by a governing body and having for its purpose the exactment of right and the suppression of wrong.

14. Yes. All beings, material, matter, procedures and all other known things or powers are subject to Law. The *Natural Laws* such as *gravity, force,* etc. constituting one class, and the*man made laws* the other.

15. The real purpose of the written Law is set forth in the *preamble* of our Constitution. Read it. Generally speaking Law is for the protection and furthering of right and the suppression of wrong.

16. We are. Ignorance of the law excuses no one. If it were not for this wise provision of the law, every dishonest person would use it as a loop hole to escape punishment by claiming ignorance.

17. (a) By precedents, we mean what has gone before in the way of decisions of superior courts. (b) It is recognized by most courts, probably to justify or corroborate their own decisions rather than through a sense of right and wrong. In former times, our courts decided cases on the sole basis of law and justice. These decisions being recorded from time to time, cover today almost any case which might arise. Hence, when a case for decision comes to the attention of our modern court, it is usually decided according to similar cases which were decided by a superior court, even though it date back 100 years. It seems that the precedent method of decisions may in some cases work an injustice on either of the parties, depending upon change of conditions or an unjust decision in the original holding.

18. It is. If a precedent is found to be faulty or unjust, it may be ignored by the court in its decision. An unjust or pre-

posterous precedent may be set aside by legislative action, in which event, courts are not allowed to base any decision or give weight to any matter contained therein.

19. Yes. In the event that a case arises being wholly different from any preceding case, there is no precedent established and so the court establishes, by its decision, a new precedent to govern the disposal of all similar cases arising thereafter.

20. (a) By the *unwritten Law* ,sometimes called Common Law) we mean a rule or law which, though not laid down by a legislative body, has been observed and practiced in courts, until by precedent, it becomes by its general acceptance, a law. (b) The Monroe Dictrine is an example of unwritten law. Our constitution does not provide that our President shall not serve more than two terms; but according to the unwritten law he cannot. Later such ruling may be made, but until it is broken, no such action seems necessary. Unwritten laws through abuse, are sometimes made written. We find that in ancient times the taking of life was prohibited by unwritten law only, but was later made a written law on account of its being so frequently broken.

21. Legal rights are of two classes; (a) The *personal rights,* which relate to personal property, private property, personal liberty, etc. (b) The *correlated,* or *relative* rights which govern our rights and duties as related to those with whom we associate such. Relative rights between land owner and tenant, parent and child, railroad and passenger, employer and employee, come under this head.

22. By *municipal law* we mean the code of rules or regulations laid down by governmenatl authority. They do not necessarily apply to towns, villages or cities, as the name would indicate. Our courts deal mostly with municipal law. Municipal law is really *civil law.*

23. *International law* deals with the relation of one nation and the individuals comprising it to another nation and the inindividuals of which it is composed.

24. Yes. In cases of war, *martial law* may be substituted for *civil law* in the event it is deemed best for the general welfare of all concerned. In cases of riots, strikes, fire, storms,

etc., where the extent or degree is such as to put the control beyond the capacity of the civil authorities, they may surrender to the military authorities until the situation is again to the point where they may, with safety handle it.

25. (a) The *common law* of England (with modifications and reservations) is accepted by all states (except one) as the foundation of our statutes. (b) The exception is Louisiana whose judicial system has for its basic principles the *Roman law,* with modifications.

26. By the *common law* only ,injustice might be done an individual. For example, one might be forced by threat to give a note for $1,000. According to law he is liable for its payment. But here *Equity* steps in and, appealing to justice, says, *"No, it is unfair"* and consequently releases him. A divorce is also obtained through a court of equity.

27. A contract is a mutual obligation entered into between two or more parties, having an offer on one hand and an eceptance of it on the other.

28. Contracts are either *expressed* or *implied.* An *expressed* contract states in words the terms governing it, while the *implied* contract terms are known or implied through circumstances.

29. The written contract belongs to the *expressed* class, but an oral one, to either.

31. To answer this question fully would require more space than is available, but some of the most important essentials follow. (a) Both parties must understand and concede to all parts of it. The agreement must be voluntary. (b) There must be a consideration in all contracts. The value of it is of minor importance; but, nevertheless, something must be given. The words *"Value received"* in all notes allude to the consideration given. (c) Any person or persons entering into a contract must be eligible to make a contract. (d) The thing contracted must be possible. It may be very *improbable* that the person assuming the obligation will or can, carry it out, but that fact does not render it void. (e) The contract must not be fraudulent. (f) A contract is void which has for its purpose the carrying out

of an unlawful act. A contract to *rob a bank* would be unlawful inasmuch as the act is unlawful.

32. No. If the contracting parties are eligible and the things contained within the contract are according to law, the contract is binding provided the aforesaid can be shown by two comptent witnesses.

33. No. While it is always well to use ink, the use of a lead pencil *does not* invalidate the instrument.

34. A guaranty is a guarantee of one person to another that a third person will carry out his obligation.

35. Yes. The acceptance of any part of a contract admits it all.

36. The person who signs a note is fully responsible for its payment, should the maker fail to pay. He may, by writing the words *"without recourse"* before his signature, relieve himself of responsibilty.

37. A contract made on Sunday or with a minor is *null and void.*

38. Yes. A contract may be dated back as far as you like. Care should be taken, however, to not place it so far back as to invalidate it through lapse of time.

39. Yes. As an example, a minor may act as an agent for an insurance company and arrange contracts between his company and the assured, which are perfectly legal.

40. By the term, *agent*, we mean the person or firm having authority to act as principal in dealing with third parties.

41. (a) A principal is the person represented by the agent. (b) No. The principal may be an individual, a firm, or a corporation.

42. Yes. Any contract made by the authorized agent must hold. In cases of rraud, however, the agent is responsible to his principal for its rectification.

43. Yes. Providing, hawever, that he represents a principal who is a citizen.

44. By a *general agent,* it is implied that he is vested with authoritu to represent his principal in all matters involving a third party. A special agent however, has power to bind his principal in matters of a special nature predesignated by his principal. Beyond this he has no authoritq.

45. An auctioneer is classed as a *special agent,* because his duty is limited to the sale of certain specified property previusly advertised. His contract is usually oral. This however, makes it no less binding than if it were written.

46. No. Unless by special arrangement with, and authorization of, his principal, the auctioneer is not allowed to act as agent in signing deeds.

47. No. The highest *bona fide* bidder can demand that his bid be accepted in the event the property is advertised to sell *without reservation.* In case the auctioneer may refuse to accpet the bona fide bid, such bidder may bring suit against him to *compel* acceptance.

48. The auctioneer may take a *lien* on goods consigned to him for sale. Or he may appropriate sufficient amount of the money collected to assure his commissions.

49. The difference lies chiefly in the fact that the broker stands in the role of a double agent; i. e. he acts as agent for the buyer as well as the seller. The auctioneer at public sales, also takes this part; but at private sales, he acts as the vendor's agent only.

50. Yes. Even though the agent act or represent in a manner the exact reverse to the wishes o fhis principal, the principal is liable.

51. It is, providing, the vendor knows the defect to exist. Otherwise, no.

52. He is. The fact that the first transaction is void (being made on Sunday) is set aside by a *new* contract or acknowledgement of sale on a *legal* day, by the payment of part of the bill.

53. No. The contract is *unreasonable* and *impossible* in its nature, hence, such a contract is void.

54. In such case the title changes when the goods are *accepted* by the common carrier. The carrier acts merely as agent for the purchaser and not for the vendor. In many cases, however, the vendor guarantees safe delivery. In this event the title does not pass until the goods are *received* by the purchaser. The common carrier then acts for the vendor.

55. In order to be negotiable an instrument should have the words "or order", or "or bearer" or similar words, also the date, place, place of payment, promise to pay, amount to be paid, and date due.

56. Promissory notes, checks and drafts.

57. No. All negotiable instruments must be for the payment of money only. To illustrate; a note promising to pay a certain person *Five Hundred Dollars in labor or corn* would not be negotiable. To be negotiable, the instrument must have no provisions whatever, but a clear cut "promise to pay in cash" statement. For instance; if one should promise to pay *Fifty Dollars from the sale of his hogs,* it would be non-negotiable. The condition limits it.

58. No. The instrument may, however, be countersigned in one's own handwriting over the printed name, in which case, it is legal.

59. The endorsers are liable for the payment of the paper in the order that their names appear thereon; i. e. the first endorsement is liable to all succeeding endorsements, etc.

60. A *corporation* is a body orgaized and created by law, and having a special charter authorizing it to act as an individual under its charter name, and to have certain rights and privileges as limited by certain restrictions and obligations. A company has no such charter and is subject to no corporation rules. The company has a right to change its name at will, but the corporation has no such right.

61. The *dividend* is the amount distributed among the stockholders and represents the net earnings of the company.

62. The *script dividend* differs from the dividend, inasmuch as it is paid to the stockholder in *script* or *stock dividend,* which he may exchange for capital stock of the company at par.

63. *Preferred stock* has (as its name indicates) preference in the payment of premiums over common stock. Preferred stock usually states the rate of dividend that it pays. As the common stock takes what dividend is left (if any) after the preferred stock has been taken care of, it is called common, as all shareholders share in common the gains and losses alike. There seems to be a common idea, that the preferred is the better investment of the two. With a thrifty company, this is not true. The preferred stockholder is assured that he will receive at least, a certain rate of dividend, whether it is earned by the company or not. In reality, the holder is not given *more* than the specified rate *regardless of the earnings.* The preferred stock is in some cases advisable as where the company suffers a severe loss, but as a whole the preferred stock is issued to those *afraid of their own judgment.*

64. A *coupon bond* is usually a Government bond, having interest bering coupons attached which are presented for payment as they fall due. The coupon bond is negotiable without endorsement. A *registered bond* has no coupons attached, and is registered in the owner's name on the Treasury Department books. The registered bond may be transferred by a transfer of title on the registration books in the Treasury Department. The old bond is, however, destroyed when the assignment is made, and a new issued and so recorded on the Treasury books.

65. By a *stock jobber,* we mean one who deals in stocks and bonds on his own account, while the stock broker deals in them only for others.

66. *Brokerage* is the commission charged by the stock broker who buys or sells stocks or bonds for another.

67. The *capital stock* of a corporation represents the entire sum of money invested by the several partners. The capital represents, not only all the capital stock, but any gains made by the corporation, such as property acquired, surplus profits, etc.

68. Yes. The old idea which has been handed down to us for ages to "never sign a paper for a stranger" is gradually

losing its hold on the thinking and open minded people. It cannot be supposed that we are acquainted with all the people with whom we shall have business transactions. Do not understand that we sign *everything that comes along,* but by using due caution, we will usually catch any fraud which may be presented for our signature. Learn to exercise your own judgment. If it is fraudulent you can usually determine it by *reading between the lines,* even though the wording may speak of justice.

70. When delivered. No, as there was no money or consideration, the contract has no supporting evidence. Hence, the donor may change his mind *up to the actual time of delivery.*

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